



# AIR FORCE OFFICE OF SCIENTIFIC RESEARCH

## RESEARCH PROPOSAL

## QUARTERLY STATUS REPORT



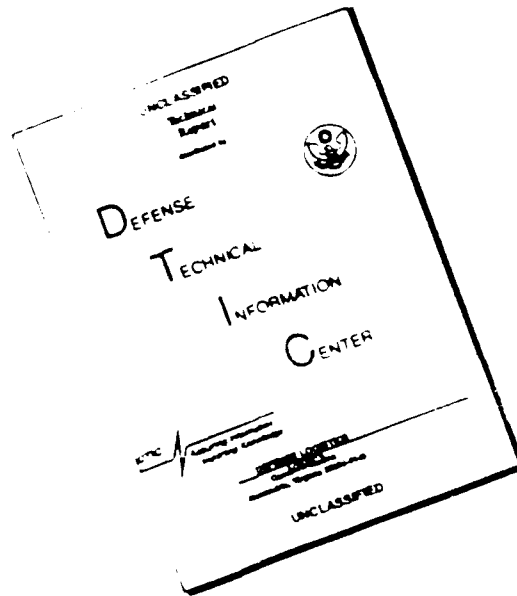
JULY - SEPTEMBER 1993

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# RESEARCH PROPOSAL

## QUARTERLY STATUS REPORT

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SEPTEMBER 1993

## INTRODUCTION

The Research Proposal Quarterly Status Report is published in March, June, September, and December by the Air Force Office of Scientific Research (AFOSR). It lists all the research proposals received by AFOSR in the previous six months along with the action taken (Initiated, Declined or Withdrawn) on each report.

The report is divided into two parts. The Institution index lists proposals alphabetically by institution. This is followed by a more detailed listing by Directorate, and by Program Manager within the Directorate.

## PURPOSE

This report is designed to inform other Government sponsoring agencies of the proposals received by the AFOSR and the action taken on these proposals. Readers must keep in mind that declined proposals should not necessarily be considered as scientifically unacceptable; many declinations result from a lack of funds or as a result of special programmatic emphasis.

## AFOSR MISSION

The Air Force Office of Scientific Research (AFOSR) is the single manager of the Air Force Defense Research Sciences Program (Program Element 61102F) and the primary Air Force agency for the extramural support of fundamental scientific research. The AFOSR is organized under the Air Force Materiel Command, DCS/Science Technology.

AFOSR awards grants and contracts for research in areas of science relevant to the needs of the Air Force. Research is selected for support from proposals received in response to the Broad Agency Announcement from scientists investigating problems involving the search for new knowledge and the expansion of scientific principles. Selection is on the basis of scientific potential for improving Air Force operational capabilities, originality, significance to science, the qualification of the principal investigators, and the reasonableness of the proposed budget.

KEY TO READING THE DATA

TITLE - The title of the research proposal

INSTITUTION - The organization, (e.d., college/university, company) at which the research will be conducted.

INVESTIGATOR - The Principal Investigators proposing the research.

TYPE - N indicates a new research effort.

- R indicates a continuation of an ongoing research effort.

MONTHS - The duration of the research proposal.

RECEIVED - The month and year in which the AFOSR received the proposal.

AMOUNT - The funds requested of the AFOSR for support of the research proposal.

STATUS - A = ACCEPTED indicates that the review has been completed and the proposal recommended for funding.

- O = DECLINED indicates the proposal has been reviewed but will not be funded by the AFOSR.

- BLANK SPACE = indicates the proposal is being reviewed.

- W = WITHDRAWN indicates that the proposal submitted was removed from further consideration at the proposers request.

PROGRAM MANAGER - The AFOSR scientific staff member assigned the responsibility for the technical evaluation of the proposal.

PROPOSAL # - An AFOSR Directorate assigned control number to uniquely identify the research proposal.

INITIATE - The proposal has been recommended to the AFOSR Directorate of Contracts for the amount and duration.

START DATE - The recommended date for commencement of the research.

TOTAL AMOUNT - The estimated number of dollars recommended for support of the research effort; the actual amount is subject to negotiation.



# **PART 1**



STATUS - 'A' = ACCEPTED, 'D' = DECLINED, 'W' = WITHDRAWN

INSTITUTION	INVESTIGATOR	LAST NAME	FIRST NAME	MIDDLE	PROPOSAL	STATUS	PM NAME
AeroChem Research Laboratories Inc	Calcote	H		F	93-NI-046	A	HUGHES
Aeronautical Systems Division	Collom	Sonny			93-NA-394	A	TISHKOFF
Air Force Institute of Technology	Suter	Bruce		W	93-NC-395	A	BERMAN
Alabama A&M University	Caulfield	H. John			93-NM-424	A	SJOGREN
	Laim	Goang		S	93-NE-477		CRAIG
American Majority Engineering	Lee	James		D	93-NM-402	A	NACHMAN
American University	Nigrin	Albert			93-NA-410		JONES
Arizona State University	Don	John		O	93-NL-368		TANGNEY
	Sen	Arunabh			93-NE-502		POMRENKE
Army Research Office	Flood	Walter		A	93-NM-434		GLASSMAN
Arnold Engineering Development Center	Tennent	Scott			93-NL-363	A	DICKINSON
Atlantic Research Corporation					93-NA-384	A	SAKELL
					93-SA-001		BALL
Australian National University	Kennett	Brian		L	93-SA-002		COLON
Boeing Co	Goren	Preston			93-NL-400	A	DICKINSON
Boston University	Bar-Yam	Yaneir			93-NE-490		BARKER
	Grossberg	Stephen			93-NL-386		TANGNEY
Bowling Green State University	Ding	Yujie		J	93-NM-456		SUDDARTH
Brandeis University	Lackner	James		R	93-NE-470		CRAIG
Brown University	Kushner	Harold		J	93-NL-351		COLLINS
California Institute of Technology	Keller	Herbert		B	93-NM-379		JACOBS
	Kimble	H		J	93-NM-435		JACOBS
	McEliece	Robert		J	93-NE-472		SCHLOSSBER
Cambridge Hydrodynamics Incorporated	Crzrag	Steven		A	93-NM-407	A	GLASSMAN
Carnegie-Mellon University	Anderson	John		R	93-NM-388		JACOBS
	Carley	L Richard		E	93-NL-384	A	TANGNEY
	Kess	Robert			93-NA-375	A	MCNICHAE
	Nicolaides	P.		A	93-NM-443	A	SJOGREN
	Sinclair	G B		S	93-NM-471		JACOBS
	Stelf	Paul		J	93-NA-361		JONES
Case Western Reserve University	Klippenstein	Stephen			93-NA-392		BERMAN
	Mzhregany	Mehran			93-NC-359	A	MCNICHAE
Catholic University of America	Uberall	Herbert		B	93-NM-358		NACHMAN
Central State University	Simmons	Gloria			93-NM-405	A	NACHMAN
City College - CUNY	Auslander	Louis			93-NM-431	A	SJOGREN
City Univ of New York Rsch Foundation					93-NM-441	A	NACHMAN
City University of New York	Ahmed	Samir		A	93-NE-504	A	CRAIG
	Alfino	Robert		R	93-NE-483	A	SCHLOSSBER
	Papageorgiou	Georgios		T	93-NM-469	A	NACHMAN
	Shum	Kai			93-NE-493	A	POMRENKE
Clark Atlanta University	Tolimieri	Richard		M	93-NM-401	A	NACHMAN
Clarkson University	Ekemezie	Udoudo		C	93-NL-391		KOZUMBO
Clemson University	Keat	William			93-NA-370		JONES
College of Staten Island/CUNY	Wang	Ting			93-NA-367		FANT
Colorado State University	Wieraszko	Andrzej		R	93-NL-399		COLLINS
	Martin	Charles			93-NC-287		WILKES
Columbia University	Matin	Leonard			93-NL-347		COLLINS

STATUS - 'A' = ACCEPTED, 'D' = DECLINED, 'W' = WITHDRAWN

INSTITUTION	INVESTIGATOR	LAST NAME	FIRST NAME	MIDDLE	PROPOSAL	STATUS	PM NAME	
Cornell University	Slaschi-Levi	David			93-MM-394		GLASSMAN	
	Traub	J.	F		93-MM-425		JACOBS	
	Boyd	Iain	D		93-NA-371		BIRKAN	
	Cooper	Barbara	H		93-MC-385		ERSTFELD	
	Pope	Steven	B		93-NA-383	A	TISHKOFF	
	Siggia	Eric	D		93-MM-414		NACHMAN	
	Todd	Michael	J		93-MM-455		GLASSMAN	
	Pearson	John	C		93-MM-476		SUDDARTH	
	Deacon	David	A		93-NE-509		SCHLOSSBER	
	Snead	John	B		93-XP-010	A	WILKERSON	
David Sarnoff Research Center	Miller	Albert			93-MM-350	A	COLLINS	
	Devaney	Anthony	J		93-MM-462		NACHMAN	
	Speller	Leslie	C		93-NE-498	A	WEINSTOCK	
	Wang	Albert	D		93-NA-393		JONES	
	Dowell	Earl	H		93-NA-355		WU	
	Rubin	David	C		93-NL-373		TANGNEY	
	Schaeffer	David	G		93-MM-421	A	NACHMAN	
	Herbert	Thorwald			93-NA-399		SARELL	
	Jen	Alex K-Y			93-MC-402		LEE	
	Holles	Douglas	E		93-NE-505		POMRENKE	
Dynalco Inc	Milani	Masoud	T		93-MM-403	A	NACHMAN	
	Krothapalli	Anjaneyulu			93-NA-385	A	MCMICHAEL	
	Levis	Alexander	H		93-MM-444	A	GLASSMAN	
	Lohner	Rainald			93-NA-396	A	SARELL	
	Karloff	Howard			93-MM-395		GLASSMAN	
	Lackey	W.	J		93-MC-375		PECHENIK	
	Serfozo	Richard	F		93-MM-437	A	SJOGREN	
	Cruickshank	Alexander			93-MC-393	A	WILKES	
	Houly	Frances	A		93-MC-395		ERSTFELD	
	Tabibi	Bagher	M		93-NA-354	A	BIRKAN	
Hamilton University	Cavanagh	Patrick			93-NL-376		TANGNEY	
	Kung	M.	T		93-MM-464	A	SJOGREN	
	Elgersma	Michael	R		93-MM-449		JACOBS	
	Gill	Tepper	L		93-MM-450		NACHMAN	
	Kushawaha	Vikram	S		93-NE-486	A	SCHLOSSBER	
	Misra	Prabhakar			93-NE-514		KELLEY	
	Okabe	Hideo			93-MC-384		MEUBERG	
	McFarlane	Ross	A		93-NE-473	A	SCHLOSSBER	
	Mundal	Srida	K		93-MC-366	A	LEE	
	Williams	David	R		93-NA-357	A	MCMICHAEL	
Indiana University/Bryant Hall	Singham	Geoffrey	P		93-NL-360		TANGNEY	
	Zwanziger	Joel	W		93-MC-362		WILKES	
	Wangemann	Robert	T		93-NE-514		SCHLOSSBER	
	Liniger	Werner			93-MM-423	A	NACHMAN	
	Sall	John			93-MM-474		SJOGREN	
	Pletcher	Richard			93-NA-406		FANT	
	Gemall	Douglas	D		93-MM-345		GLASSMAN	
	Cloth	Howard			93-NL-373	A	TANGNEY	
	Johns Hopkins University	Slaschi-Levi	David			93-MM-394		GLASSMAN
		Traub	J.	F		93-MM-425		JACOBS
Boyd		Iain	D		93-NA-371		BIRKAN	
Cooper		Barbara	H		93-MC-385		ERSTFELD	
Pope		Steven	B		93-NA-383	A	TISHKOFF	
Siggia		Eric	D		93-MM-414		NACHMAN	
Todd		Michael	J		93-MM-455		GLASSMAN	
Pearson		John	C		93-MM-476		SUDDARTH	
Deacon		David	A		93-NE-509		SCHLOSSBER	
Snead		John	B		93-XP-010	A	WILKERSON	
Defense Information Systems Agency	Miller	Albert			93-MM-350	A	COLLINS	
	Devaney	Anthony	J		93-MM-462		NACHMAN	
	Speller	Leslie	C		93-NE-498	A	WEINSTOCK	
	Wang	Albert	D		93-NA-393		JONES	
	Dowell	Earl	H		93-NA-355		WU	
	Rubin	David	C		93-NL-373		TANGNEY	
	Schaeffer	David	G		93-MM-421	A	NACHMAN	
	Herbert	Thorwald			93-NA-399		SARELL	
	Jen	Alex K-Y			93-MC-402		LEE	
	Holles	Douglas	E		93-NE-505		POMRENKE	
ENRICH American Inc	Milani	Masoud	T		93-MM-403	A	NACHMAN	
	Krothapalli	Anjaneyulu			93-NA-385	A	MCMICHAEL	
	Levis	Alexander	H		93-MM-444	A	GLASSMAN	
	Lohner	Rainald			93-NA-396	A	SARELL	
	Karloff	Howard			93-MM-395		GLASSMAN	
	Lackey	W.	J		93-MC-375		PECHENIK	
	Serfozo	Richard	F		93-MM-437	A	SJOGREN	
	Cruickshank	Alexander			93-MC-393	A	WILKES	
	Houly	Frances	A		93-MC-395		ERSTFELD	
	Tabibi	Bagher	M		93-NA-354	A	BIRKAN	
Florida International University	Cavanagh	Patrick			93-NL-376		TANGNEY	
	Kung	M.	T		93-MM-464	A	SJOGREN	
	Elgersma	Michael	R		93-MM-449		JACOBS	
	Gill	Tepper	L		93-MM-450		NACHMAN	
	Kushawaha	Vikram	S		93-NE-486	A	SCHLOSSBER	
	Misra	Prabhakar			93-NE-514		KELLEY	
	Okabe	Hideo			93-MC-384		MEUBERG	
	McFarlane	Ross	A		93-NE-473	A	SCHLOSSBER	
	Mundal	Srida	K		93-MC-366	A	LEE	
	Williams	David	R		93-NA-357	A	MCMICHAEL	
Florida State University	Singham	Geoffrey	P		93-NL-360		TANGNEY	
	Zwanziger	Joel	W		93-MC-362		WILKES	
	Wangemann	Robert	T		93-NE-514		SCHLOSSBER	
	Liniger	Werner			93-MM-423	A	NACHMAN	
	Sall	John			93-MM-474		SJOGREN	
	Pletcher	Richard			93-NA-406		FANT	
	Gemall	Douglas	D		93-MM-345		GLASSMAN	
	Cloth	Howard			93-NL-373	A	TANGNEY	
	Johns Hopkins University	Slaschi-Levi	David			93-MM-394		GLASSMAN
		Traub	J.	F		93-MM-425		JACOBS
Boyd		Iain	D		93-NA-371		BIRKAN	
Cooper		Barbara	H		93-MC-385		ERSTFELD	
Pope		Steven	B		93-NA-383	A	TISHKOFF	
Siggia		Eric	D		93-MM-414		NACHMAN	
Todd		Michael	J		93-MM-455		GLASSMAN	
Pearson		John	C		93-MM-476		SUDDARTH	
Deacon		David	A		93-NE-509		SCHLOSSBER	
Snead		John	B		93-XP-010	A	WILKERSON	
Delaware State College	Miller	Albert			93-MM-350	A	COLLINS	
	Devaney	Anthony	J		93-MM-462		NACHMAN	
	Speller	Leslie	C		93-NE-498	A	WEINSTOCK	
	Wang	Albert	D		93-NA-393		JONES	
	Dowell	Earl	H		93-NA-355		WU	
	Rubin	David	C		93-NL-373		TANGNEY	
	Schaeffer	David	G		93-MM-421	A	NACHMAN	
	Herbert	Thorwald			93-NA-399		SARELL	
	Jen	Alex K-Y			93-MC-402		LEE	
	Holles	Douglas	E		93-NE-505		POMRENKE	
Florida International University	Milani	Masoud	T		93-MM-403	A	NACHMAN	
	Krothapalli	Anjaneyulu			93-NA-385	A	MCMICHAEL	
	Levis	Alexander	H		93-MM-444	A	GLASSMAN	
	Lohner	Rainald			93-NA-396	A	SARELL	
	Karloff	Howard			93-MM-395		GLASSMAN	
	Lackey	W.	J		93-MC-375		PECHENIK	
	Serfozo	Richard	F		93-MM-437	A	SJOGREN	
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	Houly	Frances	A		93-MC-395		ERSTFELD	
	Tabibi	Bagher	M		93-NA-354	A	BIRKAN	
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	Kung	M.	T		93-MM-464	A	SJOGREN	
	Elgersma	Michael	R		93-MM-449		JACOBS	
	Gill	Tepper	L		93-MM-450		NACHMAN	
	Kushawaha	Vikram	S		93-NE-486	A	SCHLOSSBER	
	Misra	Prabhakar			93-NE-514		KELLEY	
	Okabe	Hideo			93-MC-384		MEUBERG	
	McFarlane	Ross	A		93-NE-473	A	SCHLOSSBER	
	Mundal	Srida	K		93-MC-366	A	LEE	
	Williams	David	R		93-NA-357	A	MCMICHAEL	
Georgia Tech Research Corporation	Singham	Geoffrey	P		93-NL-360		TANGNEY	
	Zwanziger	Joel	W		93-MC-362		WILKES	
	Wangemann	Robert	T		93-NE-514		SCHLOSSBER	
	Liniger	Werner			93-MM-423	A	NACHMAN	
	Sall	John			93-MM-474		SJOGREN	
	Pletcher	Richard			93-NA-406		FANT	
	Gemall	Douglas	D		93-MM-345		GLASSMAN	
	Cloth	Howard			93-NL-373	A	TANGNEY	
	Gordon Research Conferences Inc	Slaschi-Levi	David			93-MM-394		GLASSMAN
		Traub	J.	F		93-MM-425		JACOBS
Boyd		Iain	D		93-NA-371		BIRKAN	
Cooper		Barbara	H		93-MC-385		ERSTFELD	
Pope		Steven	B		93-NA-383	A	TISHKOFF	
Siggia		Eric	D		93-MM-414		NACHMAN	
Todd		Michael	J		93-MM-455		GLASSMAN	
Pearson		John	C		93-MM-476		SUDDARTH	
Deacon		David	A		93-NE-509		SCHLOSSBER	
Snead		John	B		93-XP-010	A	WILKERSON	
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	Devaney	Anthony	J		93-MM-462		NACHMAN	
	Speller	Leslie	C		93-NE-498	A	WEINSTOCK	
	Wang	Albert	D		93-NA-393		JONES	
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	Schaeffer	David	G		93-MM-421	A	NACHMAN	
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	Jen	Alex K-Y			93-MC-402		LEE	
	Holles	Douglas	E		93-NE-505		POMRENKE	
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	Kung	M.	T		93-MM-464	A	SJOGREN	
	Elgersma	Michael	R		93-MM-449		JACOBS	
	Gill	Tepper	L		93-MM-450		NACHMAN	
	Kushawaha	Vikram	S		93-NE-486	A	SCHLOSSBER	
	Misra	Prabhakar			93-NE-514		KELLEY	
	Okabe	Hideo			93-MC-384		MEUBERG	
	McFarlane	Ross	A		93-NE-473	A	SCHLOSSBER	
	Mundal	Srida	K		93-MC-366	A	LEE	
	Williams	David	R		93-NA-357	A	MCMICHAEL	
Iowa State Univ of Science and Tech	Singham	Geoffrey	P		93-NL-360		TANGNEY	
	Zwanziger	Joel	W		93-MC-362		WILKES	
	Wangemann	Robert	T		93-NE-514		SCHLOSSBER	
	Liniger	Werner			93-MM-423	A	NACHMAN	
	Sall	John			93-MM-474		SJOGREN	
	Pletcher	Richard			93-NA-406		FANT	
	Gemall	Douglas	D		93-MM-345		GLASSMAN	
	Cloth	Howard			93-NL-373	A	TANGNEY	
	Johns Hopkins University	Slaschi-Levi	David			93-MM-394		GLASSMAN
		Traub	J.	F		93-MM-425		

STATUS - 'A' = ACCEPTED, 'D' = DECLINED, 'W' = WITHDRAWN

INSTITUTION	INVESTIGATOR	LAST NAME	FIRST NAME	MIDDLE	PROPOSAL	STATUS	PM NAME
Johns Hopkins University-School of Medicine	Frazier	John		M	93-NL-389		KOZUMBO
	Khurgin	Jacob			93-NE-511		CRAIG
	Lade	Poul			93-NA-398	A	LEWIS
	Risby	Terence		M	93-NL-398		KOZUMBO
	Formby	Craig			93-NL-345		TANGNEY
	Turano	Kathleen		A	93-NL-365		COLLINS
	MORO	DAVID		S	93-NI-051	A	HART
Kent State University	Nouredine	Ali			93-NE-506	A	BARKER
Knoxville College	Harmer	Martin		P	93-NC-380		PECHENIK
Lehigh University	Barrett	Eamon		B	93-NM-429	A	WAKSMAN
Lockheed Missiles & Space Co Inc	Gu	Guoxiang			93-NM-390		JACOBS
Louisiana State University	Friedrich	Craig		R	93-NA-353	A	MCMICHAEL
Louisiana Tech University	Crawley	Edward		F	93-NA-397		WU
Massachusetts Institute of Technology	Dunand	David		C	93-NC-385		WARD
	Durlach	Nathaniel		L	93-NL-387		COLLINS
	Lee	Min-Chang			93-NE-497	A	BARKER
	Otto	Kevin		N	93-NM-400		SUDDARTH
	Thomas	Edwin		L	93-NC-360		LEE
McDonnell Douglas Aerospace	Parekh	David		E	93-NA-407	A	MCMICHAEL
McDonnell Douglas Research Lab	Kral	Linda		D	93-NA-351	A	SAKELL
Michigan State University	Hamley	Martin		C	93-NE-496	D	BARKER
	Mocera	Daniel		G	93-NC-371		ERSTFELD
	Nyquist	Dennis		P	93-NM-413		NACHMAN
	Spooner	Chad		M	93-NM-433		SJOGREN
	Strauss	Henry		R	93-NM-383		JACOBS
Mission Research Corp	Whitlow, Jr	Woodrow			93-NA-372	A	FANT
N.Y. U. Courant Institute Math Science	Benson	William		E	93-NL-381	A	DICKINSON
NASA - Langley Research Center	Chuang	Tze-Jer			93-NA-347		JONES
National Academy of Sciences	Mavor	Anna			93-NL-397	A	TANGNEY
National Inst. of Standards & Technology	Bradley	Gordon			93-NM-463	A	GLASSMAN
National Research Council	Kriegsmann	Gregory		A	93-NM-475		NACHMAN
Naval Post Graduate School	Halveston	Merritt		C	93-NC-368	A	HEDBERG
New Jersey Institute of Technology	Hajeman	James		M	93-NC-367	A	LEE
New Mexico Highlands University	Snodgrass	Joan		G	93-NL-375		TANGNEY
New Mexico State University	Iyer	Shanti			93-NE-483	A	POMBENKE
New York University	Sankar	Jagannathan			93-NC-364	A	WARD
North Carolina A&T State University	Datta	Jyotsna		M	93-NL-343	A	KROLL
North Carolina Central University	Jones	Charles		R	93-NE-478	A	SCHLOSSER
	Osteryoung	Robert		A	93-NC-390	A	WILKES
North Carolina State University	Purinton	Suzanne		T	93-NC-389		HEDBERG
	Shewler	Michael			93-NM-420	A	NACHMAN
	Yuen	Fuh-Joo			93-NA-409		JONES
Northwestern University	Malacrinoudis	Emmanuel		S	93-NM-446		GLASSMAN
	Vittoria	Carmine			93-NM-466	A	NACHMAN
Northwestern Illinois University	Curshin	Nader		B	93-NM-436		SJOGREN
Northwestern University	Belytschko	Ted			93-NA-362	A	JONES
	Liu	Wing		K	93-NA-378		WU

INSTITUTION	INVESTIGATOR	LAST NAME	FIRST NAME	MIDDLE	PROPOSAL	STATUS	PM NAME
Office of Naval Research	Pritchard	David	E	93-NE-507	A	KELLEY	
Ohio State Univ Research Foundation	McCreery	Richard	L	93-NC-370		WILKES	
	Ozuner	Fuzun	V	93-MM-473	A	SUDDARTH	
Ohio State University	Subramaniam	V	M	93-NA-363		BIRKAN	
	Sandhage	Ken	H	93-NC-373		PECHENIK	
	Soboyejo	Wole	M	93-NC-383		WARD	
	Weisenberger	Janet	M	93-NL-378		TANGNEY	
	Mei	Chuh	R	93-NA-395		WU	
Old Dominion University	Mohler	Ronald	R	93-MM-412		JACOBS	
Oregon State University	Agrawal	Dinesh	K	93-NC-397	W	PECHENIK	
Pennsylvania State University	Frenklach	Michael		93-NC-399	A	PECHENIK	
	Lopez	John	M	93-NA-374	A	TISHKOFF	
	Micci	Michael	M	93-NA-365		FANT	
Phillips Lab - Geophysics Directorate	VIGGIANO	ALBERT	A	93-NA-382	A	TISHKOFF	
Photonics Research Inc	Bryan	Robert	P	93-NI-049	A	ZARBO	
Polytechnic University	Kalkhoran	Iraj	M	93-NE-475	A	CRAIG	
	Mijovic	Jovan	M	93-NA-369	A	FANT	
	Whang	Sung	H	93-NC-365	A	LEE	
Princeton University	Kahn	Antoine		93-NC-377		WARD	
	Karniadakis	George	E	93-NE-500		POMRENKE	
	Stengel	Robert	F	93-MM-427		JACOBS	
Purdue Research Foundation	Morin	t.	L	93-MM-393	D	JACOBS	
	Sun	Wen-yih	D	93-NL-356		GLASSMAN	
Purdue University	Zoltowski	Michael		93-NL-356		KROLL	
	Murthy	S N B	D	93-MM-459	A	SJOGREN	
	Pizlo	Zygmunt	E	93-NA-360		FANT	
	Skelton	R.	E	93-NL-372		TANGNEY	
Queens College	Brown	Theodore	D	93-MM-411	A	JACOBS	
QIT Research Corporation	Vaez-Iravani	Mehdi	F	93-MM-430		NACHMAN	
Rensselaer Polytechnic Institute	Flaherty	Joseph		93-NE-479		SCHLOSSER	
	Ji	Chuanyi		93-MM-467		JACOBS	
	Rusak	Zvi	B	93-MM-408		SUDDARTH	
Rice University	Hughes	Alan		93-NL-383		JACOBS	
	Levander	B	N	93-MM-470		KOZUMBO	
Rockwell International, Science Center	Cox	Dallis	A	93-NL-395		DICKINSON	
	Hardwick	R	R	93-NA-373		JONES	
	Nurgaontkar	Ratnakar	R	93-NC-394	A	WARD	
SAI International	Shockey	Donald	A	93-NE-480	A	CRAIG	
	White	Mary	P	93-NE-481	A	CRAIG	
Swisssonian Institution	Walsworth	Ronald	L	93-NA-349		JONES	
Society for Industrial & Applied Math	Block	T. Edward		93-NL-394	W	HADDAD	
South Carolina State College	Sharma	Shrinaz	R	93-NE-495		KELLEY	
	Tao	Jianming		93-MM-383	A	JACOBS	
Southern Methodist University	Heljason	Richard		93-NL-353	A	TANGNEY	
Southern University ACM College	Glee	Rose	M	93-MM-433	A	SUDDARTH	
Sony Corporation	Vernon	Stanley		93-MM-418	A	GLASSMAN	
				93-NE-499	A	WEINSTOCK	
				93-NE-494		POMRENKE	

STATUS - 'A' = ACCEPTED, 'D' = DECLINED, 'W' = WITHDRAWN

INSTITUTION	INVESTIGATOR	FIRST NAME	MIDDLE	PROPOSAL	STATUS	PH NAME
Stanford University	Keller	Joseph	B	33-NM-399		NACHMAN
	Kilduff	Thomas	S	33-NL-392		HADDAD
	Kruger	Charles	H	93-NE-489	A	BARKER
	Nilsson	Mils	J	93-NM-454	A	WAKSMAN
	Ross	John		93-NC-375		BERMAN
State University of New York	Franklin	Yancy		93-NL-364		COLLINS
	Morin	Lawrence	P	33-NL-390		HADDAD
	Pitman	Bruce		93-NM-422	A	NACHMAN
	Prasad	Vishwanath		33-NM-457	A	JACOBS
Stevens Institute of Technology	Korfiatis	George	P	33-NL-359	A	KOZUMBO
Syracuse University	Mehrotra	Kishan	G	33-NL-369		TANGNEY
TRW Space & Technology Group	Fendell	Francis	E	93-NA-377		TISHKOFF
Tacan Corporation	Salour	Michael	M	93-NC-378	A	LEE
Technion Rsch & Development Foundation	Ustilovski	Shimon		93-EO-009		JANISZEWSKI
Texas A and M Research Foundation	Walton	Jay	R	93-NM-419	A	NACHMAN
Texas Christian University	Zerda	T. Waldek		33-NC-381		ERSTFELD
Texas Engineering Experiment Center	Whitcomb	John	D	93-NA-348		JONES
Texas Instruments Inc	Flinchbaugh	Bruce		33-NM-381	A	WAKSMAN
Texas Tech University	Endsley	Mica	R	93-NL-357		COLLINS
	Kristiansen	Magne		93-NE-491		BARKER
Thiokol Corp	Davis	I. Lee		93-NM-392		NACHMAN
Tulane University	Rubinstein	Asher	A	33-NA-381		JONES
Univ of Arizona	Chandra	Abhijit	L	93-NA-391		JONES
	Dietrich	Duane	F	93-NM-425		SUDDARTH
	Fasel	Hermann		93-NA-411		MCMICHAEL
	Kerschgen	Edward	J	93-NA-413		MCMICHAEL
	Newell	A	C	93-NM-432	A	NACHMAN
	Peterson	Mary	A	93-NL-380		TANGNEY
	Poyghambarian	N		93-NC-393		LEE
	Uhlmann	Donald	R	93-NC-401	A	ERSTFELD
	Wyganski	Israel	J	93-NA-401		MCMICHAEL
				93-NA-412	A	MCMICHAEL
Univ of Arkansas	Schaper	Leonard	W	93-NE-508	A	WEINSTOCK
Univ of California, Berkeley	Banks	Martin	S	33-NL-366		COLLINS
	Bokor	Jeffrey		93-NE-513		SMITH
	Koavopoulos	Kyriakos		93-NC-372	D	ERSTFELD
	Packard	Richard	C	33-NL-349		DICKINSON
Univ of California, Davis	Luhmann, Jr	Neville	C	93-NE-492		BARKER
Univ of California, Irvine	Akbarian	V.	A	92-NC-361		BERMAN
	Earthman	J.	C	93-NC-391	D	WARD
	Sparling	George		93-NL-370	A	TANGNEY
	Corzenn	Greg	P	93-NA-404		JONES
Univ of California, Los Angeles	Gibson	J.	S	93-NM-384	A	JACOBS
	Ho	Chih-Ming		93-NA-352	A	MCMICHAEL
	Mackenzie	John	D	93-NC-392		LEE
	Osher	Stanley		93-NM-453	A	NACHMAN
	Pearl	Judea		93-NM-395		WAKSMAN
	Roberts	Paul	H	93-NM-460		NACHMAN

REPORT DATE 10/08/93

INSTITUTION INDEX ( 1 JUL 93 - 30 SEP 93)  
AIR FORCE OFFICE OF SCIENTIFIC RESEARCH

PAGE 6

STATUS - 'A' = ACCEPTED, 'D' = DECLINED, 'W' = WITHDRAWN

INSTITUTION	INVESTIGATOR	LAST NAME	FIRST NAME	MIDDLE	PROPOSAL	STATUS	PM NAME
Univ of California, San Diego	Esener	Sadik			93-NE-501		CRAIG
	Polton	J. William			93-NM-439		JACOBS
	Williams	Forman	A		93-NA-380		BIRKAM
Univ of California, Santa Barbara	Yu	Paul	K		93-NE-516	A	CRAIG
	Gossard	Arthur	C		93-NE-510		WITT
	Lange	Fred	F		93-NC-374		PECHENIK
Univ of Colorado	Mishra	Umesh	K		93-NE-476	A	WITT
	Weinberg	W. Henry			93-NC-400		GERMAN
	Blumen	William			93-NL-355		KROLL
Univ of Connecticut	Fritts	David	C		93-NL-354	D	KROLL
	Ko	Mon-Yim			93-NA-417		LEWIS
	Schnabel	Robert	B		93-NM-417	A	GLASSMAN
Univ of Dayton	Wiemann	Carl	E		93-NE-515		SCHLOSSBER
	Galligan	J M			93-NA-364		JONES
	Javanainen	Juha			93-NE-503		KELLEY
Univ of Delaware	Hecht	Norman			93-EO-010	A	YOUNG
	Elias	John	G		93-NM-409		SUDDARTH
	Gilbert	Robert	P		93-NM-442		NACHMAN
Univ of Florida	Hanson	Eric	N		93-NM-387		WAKSMAN
	Taylor	Fred	L		93-NM-448		SUDDARTH
	Aref	Hassan			93-NM-452		NACHMAN
Univ of Illinois	Botsis	John			93-NA-387	A	JONES
	Cetinkunt	Sabri			93-NA-356		WU
	Riccio	Gary	E		93-NL-371		COLLINS
Univ of Iowa	Wickowski	Andrzej	S		93-NC-382		WILKES
	Lakes	Roderick			93-NA-408		JONES
	Dreschhoff	Gisela	A		93-NL-362		RADOSKI
Univ of Kansas, Center for Research	Prescott	Glenn	E		93-NM-382	A	SJOGREN
	McDonough	James	M		93-NA-350		SAKELL
	Gall	Michael	O		93-NM-380		GLASSMAN
Univ of Kentucky Research Foundation	Destler	William	W		93-NE-474		BARKER
	Steinman	Robert	M		93-NL-352		COLLINS
	Ganz	Aura			93-NM-465		SUDDARTH
Univ of Massachusetts	Nair	Shantikumar	V		93-NA-390		JONES
	Woolf	Evelyn	P		93-NL-361		TANGNEY
	Dutta	Debasish			93-NM-458	A	GLASSMAN
Univ of Michigan	Nadafi	Khalil			93-NA-415		MCMICHAEL
	Shyn	Tong	W		93-NE-517		KELLEY
	Rosen	J. Ben	J		93-NM-440		GLASSMAN
Univ of Minnesota	Strykowski	Paul	E		93-NA-402	A	COLLINS
	Angelaki	Dora			93-NL-359		JONES
	Pirman	Victor			93-NA-403		SJOGREN
Univ of Mississippi Medical Center	Ehatcherya	Prabir			93-NM-415	A	SJOGREN
	McNeil	John	R		93-NE-482	A	SCHLOSSBER
	Schagilloglu	Edi			93-NE-485	A	BARKER
Univ of Missouri	Trusan	C Randall			93-NA-376	A	SAKELL
	Neisser	Marlin			93-NC-363	A	WARD

REPORT DATE 10/08/93

INSTITUTION INDEX ( 1 JUL 93 - 30 SEP 93 )  
AIR FORCE OFFICE OF SCIENTIFIC RESEARCH  
STATUS - 'A' = ACCEPTED, 'D' = DECLINED, 'W' = WITHDRAWN

PAGE 7

INSTITUTION

INSTITUTION	LAST NAME	FIRST NAME	MIDDLE	PROPOSAL	STATUS	PM NAME
Univ of North Carolina	Cai	Wei		93-NM-429		JACOBS
	Figotin	Alexander		93-NM-386		NACHMAN
Univ of North Texas	Ludwig	David	A	93-NM-468	A	NACHMAN
	Marshall	Paul		93-NI-049		HART
Univ of Pennsylvania	Shahrokhi	Farhad		93-NC-403		HEDBERG
	Bonnell	Dawn	A	93-NM-406		GLASSMAN
	Garito	Anthony	F	93-NC-369		PECHENIK
	Gottschalk	Allen		93-NC-388		LEE
Univ of Pittsburgh	Koy	Sumit		93-NL-367		TANGNEY
	Hall	Charles	A	93-NM-461		SJOGREN
Univ of Puerto Rico	VanLehn	Kurt		93-NM-416		NACHMAN
	Mazumdar	P	K	93-NL-385		TANGNEY
Univ of Rochester	Sobolewski	Roman	R	93-NA-353	A	JONES
	Dalton	Larry		93-NE-487	A	WEINSTOCK
Univ of Southern California	Rosen	I. Gary		93-NC-357		LEE
	Steier	William	H	93-NC-358		LEE
Univ of Tennessee	Iannelli	Joe	S	93-NM-391		JACOBS
	Golden	Richard	M	93-NC-356		LEE
Univ of Texas	Reiter	Russel	J	93-NA-400		SAKELL
	Keller	G. Randy		93-NL-377		TANGNEY
Univ of Texas, El Paso	Nazarian	Sohell		93-NL-388	D	HADDAD
	Ng	Terry		93-NL-346	A	DICKINSON
Univ of Toledo	Oughstun	Kurt	E	93-NA-383	A	LEWIS
	Gallagher	Thomas	F	93-NA-368		FANT
Univ of Virginia	Eberhardt	D Scott		93-NM-472		NACHMAN
	Smithson	Scott	S	93-NE-471	A	KELLEY
Univ of Wyoming	Cruse	Thomas	A	93-NA-414		SAKELL
	Liberzon	Israel		93-NL-396	A	DICKINSON
Veterans Administration Medical Center	Inman	Daniel	J	93-NA-405		JONES
	Mayfish	Ali	H	93-NL-374		TANGNEY
Virginia Polytechnic Inst & State Univ	Novak	John		93-NA-373		WU
	Agarwal	Krishan	M	93-NA-366		FANT
Virginia State University	Plemons	Robert	J	93-NA-416		LEWIS
	Wolf	Clarence	G	93-NM-404	A	NACHMAN
Washington University	Landis	Wayne		93-NM-451		GLASSMAN
	Talvacchio	John	M	93-NC-379	A	LEE
Washington University	Klein	Michael		93-NL-382		KOZUMBO
	Dimiduk	Dennis	M	93-NE-512	A	WEINSTOCK
Westinghouse Electric Corporation	Corvee	H. Paul		93-NI-045	A	HART
	Shaw	Richard	K	93-NI-047	A	ZARBO
Wright State University	Chan	Richard		93-NL-393	A	KOZUMBO
				93-NM-413	A	SJOGREN
Yol: University				93-NA-389	A	TISHKOFF

## **PART 2**



TITLE TITLE (CONT.) INSTITUTION	INVESTIGATOR	TYPE/MONTHS RECEIVED AMOUNT	STATUS PROGRAM MANAGER PROPOSAL #	INITIATE START DATE TOT AMT
ON THE FUNDAMENTALS OF DAMAGE MECHANICS IN NIAI MATRIX COMPOSITES FOR HIGH TEMPERATURE APPLICATIONS National Inst. of Standards & Technology	Chuang Tze-Jer	N 12 12/07/93 \$162,000	JONES 93-NA-347	
DEVELOPMENT OF NUMERICAL CONSTITUTIVE MODELS FOR CARBON-CARBON COMPOSITES Texas Engineering Experiment Center	Whitcomb John	N 36 12/07/93 \$112,670	JONES 93-NA-348	
FAILURE BEHAVIOR OF METAL MATRIX COMPOSITES UNDER BIAXIAL LOADING SRI International	Shockey Donald	N 24 12/07/93 \$99,992	JONES 93-NA-349	
ADDITIVE TURBULENT DECOMPOSITION OF THE INCOMPRESSIBLE NAVIER-STOKES EQUATIONS Univ of Kentucky Research Foundation	McDonough James	R 24 13/07/93 \$125,627	SAKELL 93-NA-350	
LARGE-EDDY SIMULATION OF TRANSITIONAL AND TURBULENT FLOW OVER A TRANSONIC AIRFOIL McDonnell Douglas Research Lab	Kral Linda	R 34 13/07/93 \$127,900	A SAKELL 93-NA-351	\$27,900 01/12/93 \$127,900
CONFORMABLE M3 MICROSYSTEMS FOR AERODYNAMIC CONTROL Univ of California, Los Angeles	Ma Chih-Ming	N 36 14/07/93 \$1,431,702	A MCMICHAEL 93-NA-352	\$160,081 15/10/93 \$1,591,783
CHMI9293) FATIGUE & FRACTURE LABORATORY IMPROVEMENT Univ of Puerto Rico	Mazumdar P	N 12 15/07/93 \$68,691	A JONES 93-NA-353	\$68,691 30/09/93 \$69,691
CHMI9293) DEVELOPMENT OF ADVANCED THERMAL AND ELECTRIC PROPULSION (TEP) SYSTEMS Hampton University	Tabibi Bagner	N 36 19/07/93 \$431,656	A BIRKAN 93-NA-354	\$431,650 30/09/93 \$431,656
NONLINEAR DYNAMICS AND CONTROL IN AEROELASTICITY: AEROSERVOELASTICITY Duke University	Dowell Earl	N 36 20/07/93 \$333,591	WU 93-NA-355	

REPORT DATE 10/08/93

PROPOSAL STATUS REPORT ( 1 JUL 93 - 30 SEP 93 )  
AIR FORCE OFFICE OF SCIENTIFIC RESEARCH  
DIRECTORATE OF AEROSPACE SCIENCES

PAGE 2

TITLE (CONT.) INSTITUTION	INVESTIGATOR	TYPE/MONTHS RECEIVED AMOUNT	STATUS PROGRAM MANAGER PROPOSAL #	INITIATE START DATE TOT AMT
NEURO-CONTROLLERS FOR MOTION CONTROL SYSTEMS INVOLVING DISTRIBUTED MECHANICAL FLEXIBILITY Univ of Illinois	Cetinkunt Sabri	N 24 20/07/93 \$107,445	WU 93-NA-356	\$155,939 30/09/93 \$155,939
(HMI9293) ENHANCEMENT OF DIGITAL DATA ACQUISITION & PROCESSING SYSTEM OF IIT/FDRC Illinois Institute of Technology	Williams David	N 12 20/07/93 \$155,939	A MCMICHAEL 93-NA-357	\$155,939 30/09/93 \$155,939
(CARPA) MICRO-OPTO-MECHANICAL *STEMS Case Western Reserve University	Meh. egany Mehran	N 48 21/07/93 \$1,206,088	A MCMICHAEL 93-NA-358	\$120,609 15/10/93 \$1,206,088
(DEPSCOR) ACQUISITION OF MICRODRILLING/MICROMILLING/EDM EQUIPMENT Louisiana Tech University	Friedrich Craig	N 12 21/07/93 \$111,000	A MCMICHAEL 93-NA-359	\$111,000 30/09/93 \$111,000
WORKSHOP ON INHERENT NONSTEADINESS OF COMPRESSORS AND TURBINES CHINCAGO Purdue University	Murthy S N B	N 66 27/07/93 \$15,000	A FANT 93-NA-360	\$15,000 01/10/93 \$15,000
A RESEARCH PROGRAM FOR THE MECHANICS, MATERIALS AND PHYSICS OF FRACTURE (CMAPF) Carnegie-Mellon University	Sinclair G B	N 36 28/07/93 \$349,102	JONES 93-NA-361	\$93,443 01/01/94 \$291,976
CRACK PROPAGATION BY ELEMENT-FREE GALERKIN METHODS Northwestern University	Belytschko Ted	N 36 28/07/93 \$291,976	A JONES 93-NA-362	\$93,443 01/01/94 \$291,976
RECOVERY OF FROZEN FLOW LOSSES IN ARCADES Ohio State Univ Research Foundation	Suorasaenen V	N 24 28/07/93 \$173,975	A BIRKAM 93-NA-363	\$84,260 01/10/93 \$173,875
MEASUREMENT OF THE MOBILE DISLOCATION DENSITY AND CONSTITUTIVE MODELING OF PLASTICITY Univ of Connecticut	Galligan J M	N 24 28/07/93 \$341,667	JONES 93-NA-364	\$173,875

REPORT DATE 10/98/93

PROPOSAL STATUS REPORT ( 1 JUL 93 - 30 SEP 93 )  
AIR FORCE OFFICE OF SCIENTIFIC RESEARCH  
DIRECTORATE OF AEROSPACE SCIENCES

PAGE 3

TITLE  
TITLE (CONT.)  
INSTITUTION

UNSTEADY VORTEX BREAKDOWN

Pennsylvania State University

Lopez

John

INVESTIGATOR

BIFURCATION ANALYSIS OF HIGH-SPEED MULTISTAGE COMPRESSORS

Virginia Polytechnic Inst & State Univ

Nayfeh

Ali

THERMAL & FLOW STRUCTURES IN ACCELERATED/DECELERATED TRANSITIONAL  
BOUNDARY LAYERS AT ELEVATED FREE-STREAM TURBULENCE

Clemson University

Wang

Ting

VORTEX ASYMMETRY AND CONTROL OVER SLENDER CHINE FOREBODIES

Univ of Toledo

Ng

T Terry

(HM19293) RESEARCH INSTRUMENTATION FOR POLYTECHNIC UNIVERSITY'S  
SUPERSONIC WIND TUNNEL FACILITY

Polytechnic University

Kalkhoran

Iraj

INVERSE ANALYSIS FOR EMBEDDED FRACTURES

Clarkson University

Keat

William

MONTE CARLO ANALYSIS OF NONEQUILIBRIUM IONIZED FLOWS

Cornell University

Boyd

Iain

COMPUTATIONAL SIMULATION OF VERTICAL TALL BUFFET USING A GENERIC  
MODEL

NASA - Langley Research Center

Whitlow, Jr

Woodrow

NONLINEAR CONTROL USING SMART VISCOELASTIC STRUCTURES

Virginia Polytechnic Inst & State Univ

Inman

Daniel

TYPE/MONTHS  
RECEIVED  
AMOUNT

N 36  
28/07/93  
\$195,482

N 36  
28/07/93  
\$209,130

N 35  
23/07/93  
\$129,443

N 36  
28/07/93  
\$148,038

N 12  
29/07/93  
\$148,791

N 24  
30/07/93  
\$130,101

N 36  
04/08/93  
\$45,871

N 12  
05/08/93  
\$35,000

N 35  
09/08/93  
\$316,565

STATUS  
PROGRAM MANAGER  
PROPOSAL #

FANT  
93-NA-365

FANT  
93-NA-366

FANT  
93-NA-367

FANT  
93-NA-368

A  
FANT  
93-NA-369

JONES  
93-NA-370

BIRKAN  
93-NA-371

A  
FANT  
93-NA-372

WU  
93-NA-373

INITIATE  
START DATE  
TOT AMT

\$148,791  
01/11/93  
\$148,791

\$35,000  
01/10/93  
\$35,000

4

REPORT DATE 10/08/93

PROPOSAL STATUS REPORT ( 1 JUL 93 - 30 SEP 93 )  
AIR FORCE OFFICE OF SCIENTIFIC RESEARCH  
DIRECTORATE OF AEROSPACE SCIENCES

PAGE

4

TITLE (TITLE (CONT.) INSTITUTION	INVESTIGATOR	TYPE/MONTHS RECEIVED AMOUNT	STATUS PROGRAM MANAGER PROPOSAL #	INITIATE START DATE TOT AMT
DEVELOPMENT OF PREDICTIVE REACTION MODELS OF SOOT FORMATION Pennsylvania State University	Michael Franklach	R 36 10/08/93 \$236,550	A TISHKOFF 93-NA-374	\$95,000 01/01/94 \$296,550
CARPA-FY93) SILICON-MICRO-DISK ARRAYS FOR DATA STORAGE Carnegie-Mellon University	L Richard Carley	N 36 12/08/93 \$1,277,066	A MCHICHAEL 93-NA-375	\$102,500 15/11/93 \$1,277,066
(H9CU/MI/INFRA PGM) WORKSTATION FOR SUPPORT OF BASIC RESEARCH Univ of New Mexico	C Randall Truman	N 24 16/08/93 \$47,898	A SAKELL 93-NA-376	\$47,898 01/10/93 \$47,898
INITIATION AND MODIFICATION OF REACTION BY ENERGY ADDITIONS: INVESTIGATION OF KINETIC AND TRANSPORT PHENOMENA TRW Space & Technology Group	Francis Fendell	R 36 19/08/93 \$389,393	TISHKOFF 93-NA-377	
MULTIPLE SCALE REPRODUCING KERNEL METHODS FOR COMPRESSIBLE FLOW- STRUCTURE SYSTEM Northwestern University	Wing Liu	N 36 18/08/93 \$246,570	WU 93-NA-378	
RATE DEPENDENT CONESIVE ZONES IN HIGH TEMPERATURE MATERIALS Rockwell International, Science Center	B Cox	N 36 12/08/93 \$374,737	JONES 93-NA-379	
FUNDAMENTALS OF ACOUSTIC INSTABILITY IN LIQUID-PROPELLANT ROCKETS Univ of California, San Diego	Forman Williams	R 36 13/08/93 \$346,588	BIRKAM 93-NA-380	
MODELING OF STRENGTH AND TOUGHNESS OF CERAMIC MATRIX COMPOSITES BASED ON DISCRETE FIBER DISTRIBUTION Fullene University	Asher Rubinstein	N 36 12/08/93 \$214,227	JONES 93-NA-381	
APPLICATION OF PARALLEL PROCESSING TO THE INVESTIGATION OF SUPERCRITICAL DROPLET EVAPORATION AND COMBUSTION Pennsylvania State University	Michael Micci	N 36 13/08/93 \$216,500	A TISHKOFF 93-NA-382	\$69,994 01/12/93 \$218,500

REPORT DATE 10/08/93

PROPOSAL STATUS REPORT ( 1 JUL 93 - 30 SEP 93 )  
AIR FORCE OFFICE OF SCIENTIFIC RESEARCH  
DIRECTORATE OF AEROSPACE SCIENCES

PAGE 5

TITLE (CONT.) INSTITUTION	INVESTIGATOR	TYPE/MONTHS RECEIVED AMOUNT	STATUS PROGRAM MANAGER PROPOSAL #	INITIATE START DATE TOT AMT
[HMI9293] EQUIPMENT ENHANCEMENT FOR FUNDAMENTAL RESEARCH ON RECLAIMED RECYCLABLE PAVING MATERIALS Univ of Texas, El Paso	Nazarian	N 18 22/08/93 \$210,131	A LEWIS 93-NA-383	\$210,131 01/10/93 \$210,131
RIPPLE LAUNCH COMPUTATIONAL CAPABILITY Arnold Engineering Development Center	Tennant	N 12 24/08/93 \$29,832	A SAKELL 93-NA-384	\$29,832 01/10/93 \$29,832
THRUST VECTOR CONTROL OF RECTANGULAR JETS USING COUNTERFLOW Florida State University	Krothapalli	R 12 27/08/93 \$57,265	A MCWICHAEL 93-NA-385	\$57,265 01/01/94 \$57,265
INTERGOVERNMENT PERSONNEL ACT (IPA) Univ of Illinois	Gotals	N 06 01/09/93 \$58,924	A JONES 93-NA-387	\$58,924 01/01/94 \$58,924
NONLINEAR OPTICAL SPECTROSCOPY OF MULTICOMPONENT DROPLETS AND TWO AND THREE DIMENSIONAL MEASUREMENTS IN FLAMES Calz University	Chang	R 36 03/09/93 \$624,320	A TISHKOFF 93-NA-388	\$200,000 01/02/94 \$624,320
MODELLING MIXING AND REACTION IN TURBULENT COMBUSTION Cornell University	Pope	N 36 03/09/93 \$343,300	A TISHKOFF 93-NA-389	\$110,000 15/02/94 \$342,900
A COMPARATIVE INVESTIGATION OF CREEP CRACK GROWTH MECHANICS IN MONOLITHIC AND COMPOSITE CERAMICS Univ of Massachusetts	Nair	N 36 03/09/93 \$253,877	JONES 93-NA-390	
EVOLUTION AND COALESCENCE OF MICRODEFECTS IN HIGH TEMPERATURE INTERMETALLICS Univ of Arizona	Chandra	N 35 03/09/93 \$264,179	JONES 93-NA-391	
ENHANCED CRACKING RESISTANCE IN CERAMIC COMPOSITES Carnegie-Mellon University	Steif	N 36 03/09/93 \$259,624	JONES 93-NA-392	

6

REPORT DATE 10/08/93

PROPOSAL STATUS REPORT ( 1 JUL 93 - 30 SEP 93 )  
AIR FORCE OFFICE OF SCIENTIFIC RESEARCH  
DIRECTORATE OF AEROSPACE SCIENCES

PAGE 6

TITLE TITLE (CONT.) INSTITUTION	INVESTIGATOR	TYPE/MONTHS RECEIVED AMOUNT	STATUS PROGRAM MANAGER PROPOSAL #	INITIATE START DATE TOT AMT
ON A RATIONAL ANALYSIS METHODOLOGY FOR THREE-DIMENSIONAL BRAIDED FIBROUS COMPOSITES Drexel University	Wang Albert	N 24 03/09/93 \$111,159	JONES 93-NA-393	
EVALUATION OF THE IONIC MECHANISM OF SOOT FORMATION AeroChem Research Laboratories Inc	Calcote H	R 36 08/09/93 \$218,434	TISHKOFF 93-NA-394	\$55,417 15/12/93 \$219,434
RANDOM RESPONSE SUPPRESSION AND SONIC FATIGUE DESIGN OF COMPOSITE PANELS AT ELEVATED TEMPERATURES USING A SHAPE MEMORY ALLOY Old Dominion University	Mei Chuh	N 36 08/09/93 \$231,177	WU 93-NA-395	
DEVELOPMENT & APPLICATION OF NEW ALGORITHMS FOR THE SIMULATION OF VISCOUS COMPRESSIBLE FLOWS WITH MOVING BODIES George Mason University	Lohner Rainald	N 36 09/09/93 \$420,564	A SAKELL 93-NA-396	\$147,383 01/01/94 \$420,564
ACTUATOR-SENSOR-CONTROLLER OPTIMIZATION FOR INTELLIGENT DYNAMIC STRUCTURES Massachusetts Institute of Technology	Cramley Edward	N 24 09/09/93 \$100,054	WU 93-NA-397	
EXPERIMENTAL STUDY OF FACTORS CONTROLLING INSTABILITY OF FRICTIONAL MATERIAL Johns Hopkins University	Lade Poul	N 32 13/09/93 \$197,178	A LEWIS 93-NA-398	\$69,408 01/10/93 \$205,661
STABILITY OF SUPERSONIC FLOW OVER AN ELLIPTIC CONE DynaFlow Inc	Herbert Thorwald	N 06 13/09/93 \$36,199	SAKELL 93-NA-399	
A FINITE ELEMENT HIGH RESOLUTION ENTROPY WEAK STATEMENT FOR HYPERSONIC AEROTHERMODYNAMICS Univ of Tennessee	Iannelli Joe	N 36 13/09/93 \$468,021	SAKELL 93-NA-400	
FILM COOLING BY A PULSATING WALL JET Univ of Arizona	Wynanski Israel	N 36 20/09/93 \$469,018	A MCMICHAEL 93-NA-401	\$170,636 01/01/94 \$469,018

REPORT DATE 10/08/93

PAGE 7

PROPOSAL STATUS REPORT ( 1 JUL 93 - 30 SEP 93 )  
AIR FORCE OFFICE OF SCIENTIFIC RESEARCH  
DIRECTORATE OF AEROSPACE SCIENCES

TITLE (CONT.) INSTITUTION	INVESTIGATOR	TYPE/MONTHS RECEIVED AMOUNT	STATUS PROGRAM MANAGER PROPOSAL #	INITIATE START DATE TOT AMT
THRUST VECTOR CONTROL OF RECTANGULAR JETS USING COUNTERFLOW	Strykowski	N 12 20/09/93 \$51,122	A MCMICHAEL 93-NA-402	\$51,122 01/01/94 \$51,122
Univ of Minnesota	Paul			
FRACTURE CONTROL IN COMPOSITE LAMINATES USING PIEZOELECTRIC SENSORS AND ACTUATORS	Birman	N 36 21/09/93 \$191,109	JONES 93-NA-403	
Univ of Missouri	Victor			
MONITORING DAMAGE EVOLUTION WITH NOVEL DAMAGE METRICS	Carman	N 36 21/09/93 \$209,540	JONES 93-NA-404	
Univ of California, Los Angeles	Greg			
PROBABILISTIC FRACTURE MECHANICS FOR AEROSTRUCTURES	Cruise	N 36 21/09/93 \$291,844	JONES 93-NA-405	
Vanderbilt University	Thomas			
LARGE EDDY & UNSTRUCTURED GRID METHODS FOR HEAT TRANSFER APPLICATIONS IN PROPULSION SYSTEMS	Pletcher	N 36 21/09/93 \$2,300,101	FANT 93-NA-406	
Iowa State Univ of Science and Tech	Richard			
RECEPTIVITY IN COMPRESSIBLE FLOW JET CONTROL	Parakh	N 24 23/09/93 \$277,772	A MCMICHAEL 93-NA-407	\$130,362 01/01/94 \$277,772
McDonnell Douglas Aerospace	David			
HIGH STRENGTH CELLULAR SOLIDS	Lakes	N 36 23/09/93 \$298,940	JONES 93-NA-408	
Univ of Iowa	Roderick			
MICROPACKING OF CERAMIC MATRIX COMPOSITES AT ELEVATED TEMPERATURE	Yuan	N 36 23/09/93 \$315,435	JONES 93-NA-409	
North Carolina State University	Fuh-Guo			
APPLICATION OF FRACTURE MECHANICS TECHNIQUES TO ASING AIRCRAFT	Lee	N 24 27/09/93 \$100,000	JONES 93-NA-410	
American Majority Engineering	James			

REPORT DATE 10/08/93

PROPOSAL STATUS REPORT ( 1 JUL 93 - 30 SEP 93 )  
AIR FORCE OFFICE OF SCIENTIFIC RESEARCH  
DIRECTORATE OF AEROSPACE SCIENCES

PAGE 8

TITLE (CONT.) INSTITUTION	INVESTIGATOR	TYPE/MONTHS RECEIVED AMOUNT	STATUS PROGRAM MANAGER PROPOSAL #	INITIATE START DATE TOT AMT
NUMERICAL SIMULATIONS OF WALL JETS Univ of Arizona	Fasel Hermann	N 36 27/09/93 \$189,790	MCMICHAEL 93-NA-411	
THE FORCED TURBULENT WALL-JET EFFECTS OF PRESSURE GRADIENT AND CURVATURE Univ of Arizona	dygnanski Israel	R 24 27/09/93 \$320,893	MCMICHAEL 93-NA-412	
RECEPTIVITY THEORY IN COMPRESSIBLE JET FLOW CONTROL Univ of Arizona	Kerschen Edward	N 24 27/09/93 \$131,000	MCMICHAEL 93-NA-413	
AN UNSTRUCTURED, CONJUGATE GRADIENT METHOD APPLIED TO UNSTEADY, HYPERSONIC, REACTING FLOW PROBLEMS Univ of Washington	Eberhardt D Scott	N 36 27/09/93 \$382,824	SAKELL 93-NA-414	
A MICROACTUATOR/MICROSENSOR SYSTEM FOR THE STUDY AND CONTROL OF SCREECH IN HIGH SPEED JETS Univ of Michigan	Nadafi Khalil	N 24 27/09/93 \$101,865	MCMICHAEL 93-NA-415	
REVERSIBLE & IRREVERSIBLE SORPTION OF HYDROXYLATED AROMATIC HYDROCARBONS TO SOIL ORGANIC MATTER & ITS EFFECT ON FATE Virginia Polytechnic Inst & State Univ	Novak John	N 24 27/09/93 \$265,134	LEWIS 93-NA-416	
CENTRIFUGE MODELING OF HILL AFB CALIBRATION TEST THE SURVIVABILITY OF STRUCTURES ON PILE FOUNDATIONS IN SATURATED SOILS Univ of Colorado	Ko Mon-Yin	N 12 28/09/93 \$10,300	LEWIS 93-NA-417	



REPORT DATE 10/08/93

PAGE 1

PROPOSAL STATUS REPORT ( 1 JUL 93 - 30 SEP 93)  
AIR FORCE OFFICE OF SCIENTIFIC RESEARCH  
DIRECTORATE OF CHEMICAL AND ATMOSPHERIC SCIENCES

TITLE INSTITUTION	INVESTIGATOR	TYPE/MONTHS RECEIVED AMOUNT	STATUS PROGRAM MANAGER PROPOSAL #	INITIATE START DATE TOT AMT
INTEGRATED POLYMER-SEMICONDUCTOR OPTO-ELECTRONICS: BASIC MATERIALS STUDIES Univ of Southern California	Stoier William	N 36 01/07/93 \$513,473	LEE 93-NC-356	
SYNTHESIS AND PROCESSING OF NEW SECOND ORDER NONLINEAR OPTICAL MATERIALS Univ of Southern California	Dalton Larry	N 36 02/07/93 \$664,577	LEE 93-NC-357	
DEVELOPMENT AND UTILIZATION OF DEVICE QUALITY NONLINEAR OPTICAL MATERIALS Univ of Southern California	Dalton Larry	N 36 02/07/93 \$1,018,932	LEE 93-NC-358	
THEORETICAL STUDIES OF ION-MOLECULE REACTIONS Case Western Reserve University	Klippenstein Stephen	N 36 07/07/93 \$229,365	BERMAN 93-NC-359	
INFLUENCE OF COMPOSITION, CHAIN ARCHITECTURE AND PROCESSING ON POLYMER STRUCTURE AND PROPERTIES Massachusetts Institute of Technology	Thomas Edwin	N 36 08/07/93 \$732,169	LEE 93-NC-360	
ELEMENTARY CHEMICAL REACTION DYNAMICS OF INITIATION OF DETONATION IN ENERGETIC MATERIALS: THEORY AND EXPERIMENT Univ of California, Irvine	Askarian V.	N 36 09/07/93 \$331,474	BERMAN 93-NC-361	
MICROSTRUCTURE AND DYNAMICS IN GLASSY FAST ION CONDUCTORS Indiana University/Bryan Hall	Zwanziger Josef	N 36 13/07/93 \$423,220	WILKES 93-NC-362	
CERAMICS AND OPTICS LABORATORY EQUIPMENT IMPROVEMENTS Univ of New Mexico	Weiser Martin	N 12 14/07/93 \$345,745	A WAPD 93-NC-363	\$165,445 30/03/93 \$166,445
MECHANICAL BEHAVIOR INVESTIGATION OF ADVANCED CERAMIC MATRIX COMPOSITE MATERIALS North Carolina A&T State University	Sinker Jagannathan	N 12 14/07/93 \$375,115	A WARD 93-NC-364	\$139,410 30/03/93 \$139,410

REPORT DATE 10/08/93

PROPOSAL STATUS REPORT ( 1 JUL 93 - 30 SEP 93 )  
AIR FORCE OFFICE OF SCIENTIFIC RESEARCH  
DIRECTORATE OF CHEMICAL AND ATMOSPHERIC SCIENCES

PAGE 2

TITLE (CONT.) INSTITUTION	INVESTIGATOR	TYPE/MONTHS RECEIVED AMOUNT	STATUS PROGRAM MANAGER PROPOSAL #	INITIATE START DATE TOT AMT
(HMI9293) FIBER OPTIC INFRARED SPECTROSCOPY FOR "SMART" PROCESSING Polytechnic University	Miljovic Jovan	N 12 14/07/93 \$69,110	A LEE 93-NC-365	\$69,110 01/10/93 \$69,110
(HMI9293) EQUIPMENT AND INSTRUMENTATION TO DEVELOP NONLINEAR OPTICAL MATERIALS FOR PHOTONIC AND LASER TECHNOLOGIES Illinois Institute of Technology	Mandal Braja	N 12 14/07/93 \$255,750	A LEE 93-NC-366	\$243,000 30/09/93 \$255,750
(HMI9293) ACQUISITION OF A 200 MHZ NUCLEAR MAGNETIC RESONANCE SPECTROMETER New Mexico State University	Hageman James	N 12 14/07/93 \$100,000	A LEE 93-NC-367	\$100,000 30/09/93 \$100,000
(HMI9293) INFRASTRUCTURE ENHANCEMENT FOR RESEARCH New Mexico Highlands University	Helvenston Merritt	N 12 14/07/93 \$209,419	A HEDBERG 93-NC-368	\$209,419 15/09/93 \$209,419
THE RELATIONSHIP BETWEEN LOCAL DEFECT STRUCTURE AND REACTIVITY IN CARBON/CARBON AND BC3 Univ of Pennsylvania	Bonnell Dawn	N 36 14/07/93 \$460,800	PECHENIK 93-NC-369	
IN-SITU LASER ACTIVATION OF ELECTROCHEMICAL KINETICS AT CARBON ELECTRODES Ohio State Univ Research Foundation	McCreary Richard	N 36 14/07/93 \$443,559	WILKES 93-NC-370	
DESIGN OF SUPRAMOLECULAR ASSEMBLIES FOR OPTICAL SENSING Michigan State University	Nocera Daniel	N 36 15/07/93 \$533,377	ERSTFELD 93-NC-371	
ULTRA-THIN HARD PROTECTIVE COATINGS Univ of California, Berkeley	Kamvounoulas Kyriakos	N 36 15/07/93 \$539,650	D ERSTFELD 93-NC-372	
SYNTHESIS OF HIGH-TEMP., MONOLITHIC CERAMIC JOINTS, CERAMIC-MATRIX COMPOSITES BY THE OXIDATION OF SOLID METAL-DEARING PRECURSORS(SMP) Ohio State University	Ken Sandhu	N 36 15/07/93 \$599,046	PECHENIK 93-NC-373	

TITLE (CONT.) INSTITUTION	INVESTIGATOR	TYPE/MONTHS RECEIVED AMOUNT	STATUS PROGRAM MANAGER PROPOSAL #	INITIATE START DATE TOT AMT
MANO-STRUCTURES VIA DIFFUSION LIMITED CRYSTALLIZATION FROM SOLUTION PRECURSORS: SYNTHESIS AND PROPERTIES Univ of California, Santa Barbara	Fred Lange	N 36 16/07/93 \$754,766	PECHENIK 93-NC-374	
THEORY AND EXPERIMENTS ON CHEMICAL INSTABILITIES Stanford University	John Ross	N 36 16/07/93 \$487,060	BERMAN 93-NC-375	
CVD OF TEXTURED BETA-ALUMINA COATINGS ONTO FIBERS AND EVALUATION OF INTERFACIAL PROPERTIES Georgia Tech Research Corporation	W. Lackey	N 36 22/07/93 \$577,763	PECHENIK 93-NC-376	
A STUDY ON DEFORMATION MECHANISMS IN TWO-PHASE GAMMA TITANIUM ALUMINIDES Polytechnic University	Sung Whang	N 36 22/07/93 \$306,121	WARD 93-NC-377	
(SBR) MULTIFUNCTIONAL POLYMERS Taccn Corporation	Michael Salour	N 24 23/07/93 \$500,000	A LEE 93-NC-378	\$200,000 01/10/93 \$500,000
EFFECT OF EXTERNAL STRESS ON THE TRANSPORT OF FLUIDS IN THERMOPLASTIC RESIN SYSTEMS Washington University	Clarence Dolf	N 36 26/07/93 \$261,984	A LEE 93-NC-379	\$89,996 01/12/93 \$261,984
TAILORING OF GRAIN BOUNDARY CHEMISTRY FOR THE DEVELOPMENT OF SUPER CREEP-RESISTANT CERAMIC OXIDES Lehigh University	Martin Harmer	N 36 28/07/93 \$734,133	PECHENIK 93-NC-390	
GRIM SOL-GEL GLASS AND DIFFUSION IN RESTRICTED GEOMETRIES Texas Christian University	T. Walczak Zarda	N 36 28/07/93 \$169,341	ERSTFELD 93-NC-381	
A DYNAMIC AND STRUCTURAL STUDY OF METHANOL OXIDATION ON RUTHENIUM-COVERED PLATINUM SINGLE-CRYSTAL ELECTRODES Univ of Illinois	Andrzej Dieckowski	N 36 30/07/93 \$350,000	WILKES 93-NC-382	

REPORT DATE 10/08/93

PROPOSAL STATUS REPORT ( 1 JUL 93 - 30 SEP 93)  
 AIR FORCE OFFICE OF SCIENTIFIC RESEARCH  
 DIRECTORATE OF CHEMICAL AND ATMOSPHERIC SCIENCES

PAGE 4

TITLE TITLE (CONT.) INSTITUTION	INVESTIGATOR	TYPE/MONTHS RECEIVED AMOUNT	STATUS PROGRAM MANAGER PROPOSAL #	INITIATE START DATE TOT AMT
SYNERGISTIC TOUGHENING OF MOLYBDENUM DISILICIDE Ohio State University	Soboyejo Wole'	N 36 02/08/93 \$367,514	WARD 93-NC-383	
THE PYROLYSIS & PHOTOLYSIS OF ALKYLARSINE COMPOUNDS: DETECTION OF PYROLYSIS & PHOTOLYSIS PRODUCTS BY MASS SPECTROMETRY & ABSORPTION Howard University	Okabe Hideo	N 36 02/08/93 \$285,950	HEDBERG 93-NC-384	
HYPERTHERMAL ENERGY ION-SURFACE INTERACTIONS: APPLICATIONS TO THE GROWTH OF THIN FILMS AND STABILITY OF SMALL STRUCTURES Cornell University	Cooper Barbara	N 36 02/08/93 \$393,474	ERSTFELD 93-NC-385	
REFRACTORY-METAL-DISPERSION STRENGTHENED NIAL Massachusetts Institute of Technology	Dunand David	N 36 02/08/93 \$375,000	WARD 93-NC-386	
NEW CONCEPTS IN MEMBRANE SCIENCE. ULTRA-HIGH SELECTIVITY MEMBRANES FOR ELECTROCHEMICAL AND OTHER APPLICATIONS Colorado State University	Martin Charles	N 36 04/08/93 \$329,260	WILKES 93-NC-387	
HIGH PERFORMANCE ELECTROOPTIC POLYMERS AND EXCITED STATE ENHANCEMENT MECHANISMS Univ of Pennsylvania	Garito Anthony	N 36 04/08/93 \$1,005,328	LEE 93-NC-388	
COMPLETELY FLUORINATED AROMATIC COMPOUNDS North Carolina State University	Purrington Suzanne	N 36 04/08/93 \$354,164	HEDBERG 93-NC-389	
CHEMICAL STUDIES IN LEWIS ACID AND SUPERACID IONIC LIQUIDS North Carolina State University	Osteryoung Robert	R 12 06/08/93 \$160,378	A WILKES 93-NC-390	\$160,378 01/01/94 \$160,378
SOLIDIFICATION BEHAVIOR & MECHANISMS OF HIGH TEMP. DEFORMATION AND FRACTURE IN CONTINUOUS FIBER REINFORCED INTERMETALLIC MATRIX COMPO Univ of California, Irvine	Earlman J.	N 36 09/08/93 \$440,260	D WARD 93-NC-391	

REPORT DATE 10/08/93

PROPOSAL STATUS REPORT ( 1 JUL 93 - 30 SEP 93)  
AIR FORCE OFFICE OF SCIENTIFIC RESEARCH  
DIRECTORATE OF CHEMICAL AND ATMOSPHERIC SCIENCES

PAGE 5

TITLE TITLE (CONT.) INSTITUTION	INVESTIGATOR	TYPE/MONTHS RECEIVED AMOUNT	STATUS PROGRAM MANAGER PROPOSAL #	INITIATE START DATE TOT AMT
DEVELOPMENT OF QUANTUM DOT MATERIALS FOR OPTICAL DEVICES BY THE SOL-GEL METHOD Univ of California, Los Angeles	Mackenzie John	N 36 19/08/93 \$456,035	LEE 93-NC-392	
MODEL QUANTUM DOT WAVEGUIDE DEVICES BY THE SOL-GEL METHOD Univ of Arizona	Peyghambarian N	N 36 23/09/93 \$462,832	LEE 93-NC-393	
PROCESSING - PROPERTY RELATIONSHIPS IN ADVANCED INTERMETALLICS Rockwell International, Science Center	Hardwick Dallas	N 36 24/08/93 \$464,805	WARD 93-NC-394	
1994 GORDON RESEARCH CONFERENCE ON CHEMISTRY OF ELECTRONIC MATERIALS Gordon Research Conferences Inc	Houle Frances	N 12 31/09/93 \$8,000	ERSTFELD 93-NC-395	
SWCL CONTRACTORS CONFERENCE Aeronautical Systems Division	Colson Sonny	N 12 13/09/93 \$4,320	BERMAN 93-NC-396	\$4,320 01/10/92 \$4,320
NEW LOW EXPANSION MATERIALS FOR OXIDATION PROTECTIVE COATINGS ON CARPCN-CARPCN COMPOSITES Pennsylvania State University	Agrawal Dinesh	N 36 13/09/93 \$316,139	PECHEMIK 93-NC-397	
1994 GORDON RESEARCH CONFERENCE ON ELECTROCHEMISTRY Gordon Research Conferences Inc	Cruickshank Alexander	N 12 13/09/93 \$5,000	WILKES 93-NC-398	
NEW LOW EXPANSION MATERIALS FOR OXIDATION PROTECTIVE COATINGS ON CARPCN-CARPCN COMPOSITES Pennsylvania State University	Agrawal Dinesh	N 36 15/09/93 \$332,176	PECHEMIK 93-NC-399	
ADDRESSING THE PRESSURE GAP IN HETEROGENEOUS CATALYSIS: USE OF ATOMIC BEAMS IN CATALYTIC HYDROGENATION REACTIONS Univ of California, Santa Barbara	Weinberg W. Henry	N 36 23/09/93 \$233,990	BERMAN 93-NC-400	

REPORT DATE 10/08/93

PROPOSAL STATUS REPORT ( 1 JUL 93 - 30 SEP 93 )  
AIR FORCE OFFICE OF SCIENTIFIC RESEARCH  
DIRECTORATE OF CHEMICAL AND ATMOSPHERIC SCIENCES

PAGE 6

TITLE TITLE (CONT.) INSTITUTION	INVESTIGATOR	TYPE/MONTHS RECEIVED AMOUNT	STATUS PROGRAM MANAGER PROPOSAL #	INITIATE START DATE TOT AMT
CERAMICS FROM METAL-ORGANIC PRECURSORS Univ of Arizona	Uhlemann Donald	R 36 29/09/93 \$539,999	ERSTFELD 93-NC-401	
HIGH PERFORMANCE NONLINEAR OPTICAL POLYMERS ENICHEM American Inc	Jen Alex K-Y	N 24 30/09/93 \$268,330	LEE 93-NC-402	
DEVELOPMENT OF REPLACEMENTS FOR HALON FIRE EXTINGUISHERS Univ of North Texas	Marshall Paul	N 35 30/09/93 \$236,593	HEDBERG 93-NC-403	

REPORT DATE 10/09/93  
PROPOSAL STATUS REPORT ( 1 JUL 93 - 30 SEP 93 )  
AIR FORCE OFFICE OF SCIENTIFIC RESEARCH  
DIRECTORATE OF ELECTRONIC AND MATERIAL SCIENCES

TITLE (CONT.) INSTITUTION	INVESTIGATOR	TYPE/MONTHS RECEIVED AMOUNT	STATUS PROGRAM MANAGER PROPOSAL #	INITIATE START DATE TOT AMT
OPTOELECTRONIC PROPERTIES AND DEVICES OF SEMICONDUCTOR NARROW ASYMMETRIC QUANTUM WELL STRUCTURES Bowling Green State University	Ding	N 36 06/07/93 \$246,807	CRAIG 93-NE-470	\$175,000 15/11/93 \$175,000
STRUCTURE AND DYNAMICS OF EXCITED ATOMS Univ of Virginia	Gallagher	R 12 06/07/93 \$203,413	A KELLEY 93-NE-471	\$175,000 15/11/93 \$175,000
SPECTROSCOPY WITH NON CLASSICAL LIGHT California Institute of Technology	Kimble	N 36 07/07/93 \$768,899	SCHLOSSBER 93-NE-472	
VISIBLE AND NEAR IR LASER OSCILLATORS USING MBE WAVEGUIDES Hughes Aircraft Corp Research Labs	McFarlane	N 36 07/07/93 \$750,001	A SCHLOSSBER 93-NE-473	\$100,000 01/01/94 \$600,000
EXPERIMENTAL AND THEORETICAL RESEARCH ON ADVANCED MICROWAVE GENERATION CONCEPTS Univ of Maryland	Destler	N 36 07/07/93 \$1,227,365	BARKER 93-NE-474	
(SDI-93) TERABIT/SEC PHOTONIC COMPUTER NETWORK USING MULTI-WAVELENGTH VERTICAL-CAVITY SURFACE-EMITTING LASER ARRAY Photonics Research Inc	Bryan	N 06 08/07/93 \$74,251	A CRAIG 93-NE-475	\$78,382 15/09/93 \$74,291
THE STUDY OF THE MATERIALS PROPERTIES OF LTG (AL)GaAs AND ITS ELEC TRONIC AND OPTO-ELECTRONIC DEVICE APPLICATIONS Univ of California, Santa Barbara	Mishra	N 36 08/07/93 \$389,244	A WITT 93-NE-476	\$119,183 01/11/93 \$389,244
TRANSMISSION OF LIGHT THROUGH EXTENDED MOVING DIFFUSERS Alabama A&M University	Caulfield	N 36 12/07/93 \$299,319	CRAIG 93-NE-477	
CONTRACT EMISSION BY ELECTRON MICROPULSES: DEVICE STUDIES WITH THE HCCU ELECTRON GUN North Carolina Central University	Jones	N 36 12/07/93 \$474,401	SCHLOSSBER 93-NE-478	

REPORT DATE 10/08/93

PROPOSAL STATUS REPORT ( 1 JUL 93 - 30 SEP 93 )  
 AIR FORCE OFFICE OF SCIENTIFIC RESEARCH  
 DIRECTORATE OF ELECTRONIC AND MATERIAL SCIENCES

PAGE 2

TITLE TITLE (CONT.) INSTITUTION	INVESTIGATOR	TYPE/MONTHS RECEIVED AMOUNT	STATUS PROGRAM MANAGER PROPOSAL #	INITIATE START DATE TOT AMT
OPTICAL PROBING OF MAGNETO-OPTIC STRUCTURES AND SEMICONDUCTORS WITH HIGH RESOLUTION AND SENSITIVITY RIT Research Corporation	Vaez-Iravanli Mehdi	N 36 12/07/93 \$288,244	SCHLOSSBER 93-NE-479	
PHOTOREFRACTIVE TUNGSTEN BRONZE MATERIALS FOR OPTICAL COMPUTING Rockwell International, Science Center	Neurgaonkar R	R 24 12/07/93 \$799,992	A CRAIG 93-NE-480	\$100,000 01/11/93 \$799,992
INTEGRATION OF FERROELECTRIC THIN FILMS SLM'S AND OPTICAL INFORMATION PROCESSING SYSTEMS Rockwell International, Science Center	Neurgaonkar Ratnakar	R 24 12/07/93 \$599,889	A CRAIG 93-NE-481	\$75,000 01/11/93 \$599,889
(FY92-93 HBCU/MID) INSTRUMENTATION TO ENHANCE OPTICAL SCATTEROMETRY FOR SEMICONDUCTOR METROLOGY DEVELOPMENT Univ of New Mexico	McNeil John	N 36 13/07/93 \$185,028	A SCHLOSSBER 93-NE-482	\$185,028 01/09/93 \$185,028
(FY92-93 HBCU/MID) DEVELOPMENT OF 1 - 2 UM TUNABLE SOLID-STATE LASERS BASED ON CR (4+) AS A LASING ION City University of New York	Alfano Robert	N 36 13/07/93 \$235,000	A SCHLOSSBER 93-NE-483	\$235,000 01/10/93 \$235,023
(FY92-93 HBCU/MID) INSTRUMENTATION IN SUPPORT OF THE MCCU ELECTRON GUN North Carolina Central University	Jones Charles	N 36 13/07/93 \$69,822	A SCHLOSSBER 93-NE-484	\$69,024 01/10/93 \$69,822
(FY92-93 HBCU/MID) INSTRUMENTATION FOR THE PULSED POWER AND PLASMA SCIENCES LABORATORY AT THE UNIVERSITY OF NEW MEXICO Univ of New Mexico	Schmalloglu Edi	N 36 13/07/93 \$154,519	A BARKER 93-NE-485	\$154,519 30/09/93 \$154,519
(FY92-93 HBCU/MID) DEVELOPMENT OF COMPACT 1.05 AND 2.1 MICRON LASERS Howard University	Kushawaha Vikram	N 24 14/07/93 \$259,370	A SCHLOSSBER 93-NE-486	\$257,137 30/09/93 \$259,370
THE CHARPINS EFFECT IN HIGH TCC SUPERCONDUCTING THIN FILMS Univ of Rochester	Sobolewski ROBERT	R 36 14/07/93 \$261,000	A WEINSTOCK 93-NE-487	\$85,000 01/01/94 \$240,000



REPORT DATE 10/08/93

PROPOSAL STATUS REPORT ( 1 JUL 93 - 30 SEP 93 )  
 AIR FORCE OFFICE OF SCIENTIFIC RESEARCH  
 DIRECTORATE OF ELECTRONIC AND MATERIAL SCIENCES

PAGE 3

TITLE (CONT.) INSTITUTION	INVESTIGATOR	TYPE/MONTHS RECEIVED AMOUNT	STATUS PROGRAM MANAGER PROPOSAL #	INITIATE START DATE TOT AMT
(FY92-93 H8CU/MI) MOLECULAR BEAM EPITAXIAL SYSTEM	Iyer	N 12 15/07/93 \$737,795	A POMRENKE 93-NE-488	\$736,795 30/09/93 \$736,795
North Carolina A&T State University	Shanti			
TRANSPORT OF AIR PLASMAS	Kruger	N 36 16/07/93 \$747,091	A BARKER 93-NE-489	\$249,923 01/11/93 \$747,091
Stanford University	Charles			
COMPACT GATED BEAM RF SOURCE INVESTIGATION	Geren	N 12 21/07/93 \$249,841	BARKER 93-NE-490	
Boeing Co	Preston			
HIGH POWER MICROWAVE GENERATOR	Kristiansen	R 36 21/07/93 \$150,000	BARKER 93-NE-491	
Texas Tech University	Magne			
COMPACT MILLIMETER WAVE DEVICES	Luhmann, Jr	N 36 22/07/93 \$300,000	BARKER 93-NE-492	
Univ of California, Davis	Neville			
(H8CU/MI 92-93) HOT ELECTRON GE/SI LASERS	Shue	N 24 26/07/93 \$242,571	A POMRENKE 93-NE-493	\$242,571 01/09/94 \$242,571
City University of New York	Kai			
(PHASE II) GROWTH OF THICK BORON PHOSPHIDE FILMS	Vernon	R 24 27/07/93 \$499,349	POMRENKE 93-NE-494	
Spire Corporation	Stanley			
INVESTIGATION OF ATOMIC COLLISIONS AND FREQUENCY STABILITY WITH A CRYSTALINE HYDROGEN MASER	Walsworth	N 12 05/08/93 \$99,757	A KELLEY 93-NE-495	
Smithsonian Institution	Ronald			
DIAGNOSTICS AND MODELING OF MICROWAVE GENERATED PLASMAS	Haelzy	N 36 05/09/93 \$429,544	O BARKER 93-NE-496	
Michigan State University	Martin			

REPORT DATE 10/08/93

PROPOSAL STATUS REPORT ( 1 JUL 93 - 30 SEP 93 )  
AIR FORCE OFFICE OF SCIENTIFIC RESEARCH  
DIRECTORATE OF ELECTRONIC AND MATERIAL SCIENCES

PAGE 4

TITLE TITLE (CONT.) INSTITUTION	INVESTIGATOR	TYPE/MONTHS RECEIVED AMOUNT	STATUS PROGRAM MANAGER PROPOSAL #	INITIATE START DATE TOT AMT
ELECTROMAGNETIC WAVE PROPAGATION AND ATTENUATION IN MAGNETOPLASMAS Massachusetts Institute of Technology	Lee Min-Chang	R 36 05/08/93 \$451,050	A BARKER 93-NE-497	\$34,831 01/12/93 \$69,544
(FY92-93 HBCU/MIS) TECHNICAL ASSISTANCE TO HBCU/MIS TO INCREASE CAPABILITIES District of Columbia University	Speller Leslie	N 24 06/08/93 \$400,000	A WEINSTOCK 93-NE-498	\$183,333 01/11/93 \$400,000
(FY92-93 HBCU/MIS) THE DOO/HBCU/MIS TECHNICAL ASSISTANCE PROGRAMS Southern University A&M College	Glee Rose	N 24 06/08/93 \$395,000	A WEINSTOCK 93-NE-499	\$183,333 01/11/93 \$395,000
G(CAN, AIM, AND I(CN): SURFACES, METAL CONTACTS AND HETEROSTRUCTURES Princeton University	Kahn Antoine	N 36 10/08/93 \$277,307	POMRENKE 93-NE-500	
SMART PIXEL TECHNOLOGIES FOR INTERFACING OPTICAL MEMORIES WITH OPTOELECTRONIC COMPUTING SYSTEMS/GUIDED WAVE OPTICAL INTERCONNECTS Univ of California, San Diego	Esenher Sadik	N 36 16/08/93 \$420,000	CRAIG 93-NE-501	
NOVEL SEMICONDUCTORS Arizona State University	Dov John	N 36 23/08/93 \$262,645	POMRENKE 93-NE-502	
THEORY OF LASER COOLING AND TRAPPING OF ATOMS AND IONS Univ of Connecticut	Javanainen Juha	N 36 23/08/93 \$382,837	KELLEY 93-NE-503	
NOVEL MULTIPLEXING TECHNIQUES FOR HIGH-SPEED OPTICAL TRANSMISSION SYSTEMS USING OPTICAL AMPLIFIERS City University of New York	Ammed Samir	N 36 24/08/93 \$479,911	A CKWIC 93-NE-504	\$155,475 01/12/93 \$479,911
DYNAMICS OF SUPERMATRIX SEMICONDUCTOR GROWTH Electronic Materials Engineering	Holmes Douglas	N 26 25/08/93 \$166,415	POMRENKE 93-NE-505	

REPORT DATE 10/08/93

PROPOSAL STATUS REPORT ( 1 JUL 93 - 30 SEP 93 )  
AIR FORCE OFFICE OF SCIENTIFIC RESEARCH  
DIRECTORATE OF ELECTRONIC AND MATERIAL SCIENCES

PAGE 5

TITLE (CONT.) INSTITUTION	INVESTIGATOR	TYPE/MONTHS RECEIVED AMOUNT	STATUS PROGRAM MANAGER PROPOSAL #	INITIATE START DATE TOT AMT
(MBCU/NI) ADVANCEMENT OF KNOXVILLE COLLEGE RESEARCH ABILITIES Knoxville College	Noureddine All	N 36 30/08/93 \$234,258	A BARKER 93-NE-506	\$234,258 01/11/93 \$234,258
EXPERIMENTS WITH TRAPPED NEUTRAL ATOMS Office of Naval Research	Pritchard David	N 36 01/09/93 \$585,000	A KELLEY 93-NE-507	\$63,000 01/10/93 \$171,000
(AACERT-93) HTCS MCM PROCESS DEVELOPMENT Univ of Arkansas	Schaper Leonard	N 36 02/09/93 \$342,460	A WEINSTOCK 93-NE-508	\$329,607 01/10/93 \$342,460
SAMPLE TESTING FOR OPTICAL POLING Descon Research	Deacon David	N 12 02/09/93 \$25,000	SCHLOSSBER 93-NE-509	
HIGH-PERFORMANCE GRADED QUANTUM STRUCTURES-GROWTH, APPLICATIONS Univ of California, Santa Barbara	Gossard Arthur	N 36 07/09/93 \$590,679	WITT 93-NE-510	
MATERIALS ENGINEERING NOVEL SEMICONDUCTOR STRUCTURES Johns Hopkins University	Khurgin Jacob	N 36 07/09/93 \$368,146	CRAIG 93-NE-511	
ATS FILMS AND MULTILAYERS FOR ELECTRONICS Westinghouse Electric Corporation	Talvacchio John	N 36 20/09/93 \$393,849	A WEINSTOCK 93-NE-512	\$200,000 15/02/94 \$625,000
JOINT SERVICES ELECTRONICS PROGRAMS Univ of California, Berkeley	Bokor Jeffrey	N 36 20/09/93 \$2,457,286	SMITH 93-NE-513	
14TH IEEE INTERNATIONAL SEMICONDUCTOR LASER CONFERENCE Inst. of Electrical & Electronics Eng'g	Wengemann Robert	N 12 20/05/93 \$10,000	SCHLOSSBER 93-NE-514	

REPORT DATE 10/09/93

PROPOSAL STATUS REPORT ( 1 JUL 93 - 30 SEP 93)  
AIR FORCE OFFICE OF SCIENTIFIC RESEARCH  
DIRECTORATE OF ELECTRONIC AND MATERIAL SCIENCES

PAGE 6

TITLE TITLE (CONT.) INSTITUTION	INVESTIGATOR	TYPE/MONTHS RECEIVED AMOUNT	STATUS PROGRAM MANAGER PROPOSAL #	INITIATE START DATE TOT AMT
FOURTEENTH INTERNATIONAL CONFERENCE ON ATOMIC PHYSICS Univ of Colorado	Wiemann Carl	N 12 20/09/93 \$10,000	SCHLOSSBER 93-NE-515	
CAASERT-93) STRAINED-LAYER MULTIPLE QUANTUM WELL FOR HIGH LINEARITY MODULATION Univ of California, San Diego	Yu Paul	N 36 22/09/93 \$99,605	A CRAIG 93-NE-516	
MEASUREMENT OF VIBRATIONAL EXCITATION CROSS SECTIONS OF MOLECULAR NITROGEN BY ELECTRON IMPACT Univ of Michigan	Shyn Tong	N 36 24/09/93 \$411,100	KELLEY 93-NE-517	
(CH3CU) FREE RADICAL SPECTROSCOPY USING LASER-INDUCED FLUORESCENCE AND THE OPTOGALVANIC EFFECT Howard University	Misra Prabhakar	N 36 24/09/93 \$322,758	KELLEY 93-NE-518	

REPORT DATE 10/08/93

PROPOSAL STATUS REPORT ( 1 JUL 93 - 30 SEP 93)  
AIR FORCE OFFICE OF SCIENTIFIC RESEARCH  
DIRECTORATE OF EDUCATION, ACADEMIC AND INDUSTRY AFFAIRS

PAGE 1

TITLE TITLE (CONT.) INSTITUTION	INVESTIGATOR	TYPE/MONTHS RECEIVED AMOUNT	STATUS PROGRAM MANAGER PROPOSAL #	INITIATE START DATE TOT AMT
A STUDY OF AMORPHOUS AND GLASSY MATERIALS WITH POSSIBLE APPLICATION TO HIGH TEMPERATURE SUPERCONDUCTORS Worcester Polytechnic Institute	Klein Michael	N 12 13/07/93 \$116,551	A HART 93-NI-045	\$30,040 01/07/93 \$30,040
SMALL BUSINESS INNOVATION RESEARCH SOLICITATION (TRAVEL AND PER DIEM)		N 03 19/07/93 \$14,156	A HUGHES 93-NI-046	\$14,156 01/07/93 \$14,156
INVESTIGATION OF THE INTERFACIAL STRUCTURE AND LATTICE-MISMATCH IN TWO-PHASE GAMMA TITANIUM ALUMINIDES Bright Lab	Dmiduk Dennis	N 06 27/07/93 \$21,468	A ZARBO 93-NI-047	\$5,000 18/08/93 \$5,000
INFLUENCE OF DIFFERENTIAL PHYSICAL TRAINING METHODS FOR ENHANCING DURATION TOLERANCE TO SUSTAINED ACCELERATION Univ of North Carolina	Ludwig David	N 09 03/08/93 \$31,715	A HART 93-NI-048	\$4,524 01/09/93 \$4,524
ION AND RELATED TRACE NEUTRAL CHEMISTRY IN THE LOWER ATMOSPHERE Phillips Lab - Geophysics Directorate	VIGGIANO ALBERT	N 02 04/08/93 \$9,011	A ZARBO 93-NI-049	\$1,337 01/10/93 \$1,337
INTERFACE-GUIDED NONLINEAR SURFACE POLARITONS AND SECOND HARMONIC GENERATION Kent State University	MOROI DAVID	N 12 15/08/93 \$93,274	A HART 93-NI-051	\$8,273 01/09/93 \$8,273

REPORT DATE 10/08/93  
 PROPOSAL STATUS REPORT ( 1 JUL 93 - 30 SEP 93)  
 AIR FORCE OFFICE OF SCIENTIFIC RESEARCH  
 DIRECTORATE OF LIFE SCIENCES

PAGE 1

TITLE (CONT.) INSTITUTION	INVESTIGATOR	TYPE/MONTHS RECEIVED AMOUNT	STATUS PROGRAM MANAGER PROPOSAL #	INITIATE START DATE TOT AMT
ACUSTIC AND PHONETIC TRADING RELATIONS FOR NOISE BAND SIGNALS Johns Hopkins University-School of Medic	Foraby Craig	N 36 07/07/93 \$706,590	TANGNEY 93-NL-345	\$174,801 01/09/93 \$174,801
INSTRUMENTATION FOR SEISMIC DATA ACQUISITION AND ANALYSIS Univ of Texas, El Paso	Keller G. Randy	N 12 07/07/93 \$174,801	A DICKINSON 93-NL-346	\$174,801 01/09/93 \$174,801
VISUAL PERCEPTION OF SPATIAL LOCATION AND ORIENTATION Columbia University	Martin Leonard	R 36 08/07/93 \$1,487,142	COLLINS 93-NL-347	
SUPERFLUID PHASE-SLIPPAGE: FUNDAMENTAL PHYSICS AND ABSOLUTE EARTH ROTATION Univ of California, Berkeley	Packard Richard	N 36 09/07/93 \$423,800	DICKINSON 93-NL-348	
HSCU INSTRUMENTATION FOR MILLIMETER AND SUBMILLIMETER GAS PHASE SP ECTROSCOPY North Carolina Central University	Dutta Jyotsna	N 12 09/07/93 \$51,042	A AROLL 93-NL-349	\$51,042 15/09/93 \$51,042
HSCC'S MODE OF HUMAN IMAGE REPRESENTATION AND ERROR CHECKING STRA TEGIES IN COMPLEX VISUAL DISPLAYS Delaware State College	Miller Albert	N 36 09/07/93 \$231,015	A COLLINS 93-NL-350	\$285,087 15/09/93 \$291,015
SPATIAL DISORIENTATION AND CONTROL OF THE EYES, HEAD AND NECK Brandeis University	Lackner James	N 36 12/07/93 \$1,919,514	COLLINS 93-NL-351	
COORDINATED ACTION IN 3-D SPACE II Univ of Maryland	Steinman Robert	N 36 12/07/93 \$356,910	COLLINS 93-NL-352	
HM12233 - HUMAN FACTOR ISSUES IN THE IMPLEMENTATION OF ADVANCED MA NUFACTURING South Carolina State College	Chandekar Shriram	N 12 12/07/93 \$54,819	A TANGNEY 93-NL-353	\$54,819 01/10/93 \$54,819

TITLE (CONT.) INSTITUTION	INVESTIGATOR	TYPE/MONTHS RECEIVED AMOUNT	STATUS PROGRAM MANAGER PROPOSAL #	INITIATE START DATE TOT AMT
MODELING AND PARAMETERIZATION OF GRAVITY WAVE BREAKING, INTERACTIO NS, AND INSTABILITY PROCESSES IN THE LOWER & MIDDLE ATMOSPHERE Univ of Colorado	Fritts David	N 36 14/07/93 \$262,374	D KROLL 93-NL-354	
FRONT BOUNDARY-LAYER PROCESSES Univ of Colorado	Blumen William	R 36 14/07/93 \$249,047	KROLL 93-NL-355	
STORMS IN THE HIGH PLAINS AND ON THE EAST SIDE OF THE ROCKY MOUNTA INS Purdue Research Foundation	Sun Wen-yih	N 36 15/07/93 \$314,968	D KROLL 93-NL-356	
THREE-DIMENSIONAL AUDITORY CUES AND SPATIAL ORIENTATION IN AIRCRAF T Texas Tech University	Endsley Mica	N 24 15/07/93 \$164,764	COLLINS 93-NL-357	
ADAPTIVE VISUAL-VESTIBULAR MECHANISMS FOR SPATIAL ORIENTATION Univ of Mississippi Medical Center	Angelaki Dora	N 36 16/07/93 \$258,133	COLLINS 93-NL-358	
HBCU ANALYTICAL INSTRUMENTATION FOR ENVIRONMENTAL RESEARCH Stevens Institute of Technology	Karfiotis George	N 12 15/07/93 \$449,453	A KUZUBO 93-NL-359	\$448,733 30/09/93 \$449,453
PHYSICAL CONSTRAINTS ON FORM: INVESTIGATING VISUAL INFORMATION FOR SIZE AND DISTANCE Indiana University/Bryan Hall	Bingham Geoffrey	N 36 19/07/93 \$347,637	TANGNEY 93-NL-360	
AUTOMATING THE DEVELOPMENT OF INTELLIGENT TUTORING SYSTEMS Univ of Massachusetts	Woolf Eeverly	N 36 15/07/93 \$1,255,313	TANGNEY 93-NL-361	
MAJKA SOLAR PECTOM EVENT RECORD FROM POLAR ICE CORES Univ of Kansas, Center for Research	Dreschhoff Gisela	R 36 21/07/93 \$162,000	RADOSKI 93-NL-362	

REPORT DATE 10/08/93

PROPOSAL STATUS REPORT ( 1 JUL 93 - 30 SEP 93 )  
AIR FORCE OFFICE OF SCIENTIFIC RESEARCH  
DIRECTORATE OF LIFE SCIENCES

PAGE 3

TITLE TITLE (CONT.) INSTITUTION	INVESTIGATOR	TYPE/MONTHS RECEIVED AMOUNT	STATUS PROGRAM MANAGER PROPOSAL #	INITIATE START DATE TOT AMT
WORKSHOP OF SCATTERING FROM ROUGH SURFACES Army Research Office	Flood	N 02 26/07/93 \$5,340	A DICKINSON 93-NL-363	\$5,340 30/07/93 \$5,340
IMPLICIT KNOWLEDGE ABOUT FALLING TRAJECTORIES State University of New York	Franklin	N 36 27/07/93 \$274,631	COLLINS 93-NL-364	
VISUAL PERCEPTION OF SELF MOTION Johns Hopkins University-School of Medic	Turano	N 36 28/07/93 \$529,505	COLLINS 93-NL-365	
VISUALLY-GUIDED NAVIGATION Univ of California, Berkeley	Banks	N 36 03/08/93 \$332,900	COLLINS 93-NL-366	
OPTICAL IMAGE REPRESENTATION IN EARLY VISION Univ of Pennsylvania	Gottschalk	N 36 11/08/93 \$636,695	TANGNEY 93-NL-367	
SONNET 2: A BIOLOGICALLY PLAUSIBLE NEURAL NETWORK FOR PATTERN RECOGNITION American University	Nisrin	N 36 11/08/93 \$276,270	TANGNEY 93-NL-368	
COMPUTATIONAL NEURAL MODELING OF IMAGE STABILIZATION MECHANISMS Syracuse University	Mehrotra	N 24 11/08/93 \$362,252	TANGNEY 93-NL-369	
VISUAL MOTION PERCEPTION AND VISUAL INFORMATION PROCESSING Univ of California, Irvine	Sperling	N 03 16/08/93 \$66,920	A TANGNEY 93-NL-370	\$66,920 15/11/93 \$66,920
TOWARD AND APPRECIATION OF VESTIBULAR PATTERN RECOGNITION AND THE ACTIVE PERCEPTION OF ORIENTATION Univ of Illinois	Riccio	N 36 16/08/93 \$237,153	COLLINS 93-NL-371	



REPORT DATE 10/03/93

PROPOSAL STATUS REPORT ( 1 JUL 93 - 30 SEP 93)  
AIR FORCE OFFICE OF SCIENTIFIC RESEARCH  
DIRECTORATE OF LIFE SCIENCES

PAGE 4

TITLE (CONT.) - INSTITUTION	INVESTIGATOR	TYPE/MONTHS RECEIVED AMOUNT	STATUS PROGRAM MANAGER PROPOSAL #	INITIATE START DATE TOT AMT
PERCEPTION OF THREE DIMENSIONAL SHAPE Purdue University	Pizio	N 36 19/08/93 \$444,659	TANGNEY 93-NL-372	
STUDIES IN LONG-TERM MEMORY Duke University	Rubin	N 36 19/03/93 \$308,870	TANGNEY 93-NL-373	
EFFECTS OF AROUSAL IN PTSD PATIENTS, NORMAL AND PSYCHIATRIC PATIENTS Veterans Administration Medical Center	Liberzon	N 24 19/08/93 \$35,258	TANGNEY 93-NL-374	
FACILITATION AND INTERFERENCE IN IDENTIFICATION OF PICTURES AND WORDS New York University	Snodgrass	R 36 20/08/93 \$256,867	TANGNEY 93-NL-375	
EARLY SCENE ANALYSIS: RAPID PROCESSING OF CONTOURS, SURFACES AND OBJECTS IN HUMAN VISION Harvard University	Cavanagh	R 35 20/08/93 \$473,989	TANGNEY 93-NL-376	
A PSYCHOMETRIC COMPUTATIONAL POP MODEL OF TEXT MEMORY Univ of Texas	Golden	N 60 23/08/93 \$493,163	TANGNEY 93-NL-377	
TACTILE FEEDBACK FOR PERCEPTION OF SURFACE FORM AND TEXTURE Ohio State University	Weisenberger	N 36 23/08/93 \$465,611	TANGNEY 93-NL-378	
PERATTENTIVE AND ATTENTIVE VISUAL INFORMATION PROCESSING Johns Hopkins University	Egath	N 36 23/09/93 \$408,139	A TANGNEY 93-NL-379	
PRE-FIGURAL OBJECT RECOGNITION: PROCESSES, PROPERTIES, AND INTERACTIONS Univ of Arizona	Peterson	N 60 23/08/93 \$447,037	TANGNEY 93-NL-380	

TITLE TITLE (CONT.) INSTITUTION	INVESTIGATOR	TYPE/MONTHS RECEIVED AMOUNT	STATUS PROGRAM MANAGER PROPOSAL #	INITIATE START DATE TOT AMT
COMMITTEE ON SEISMOLOGY National Academy of Sciences	Benson	N 24 27/08/93 \$40,000	A DICKINSON 93-NL-381	\$40,000 01/10/93 \$40,000
DIMENSIONALITY REDUCTION FOR VISUALIZATION AND INTERPRETATION OF MULTIVARIATE ECOTOXICOLOGICAL DATA OF VARYING PHYSICEMORAL SCALES Western Washington University	Landis Wayne	R 36 31/08/93 \$485,416	KOZUMBO 93-NL-382	
AEROBIC BIOTRANSFORMATION OF CHLORINATED ALIPHATICS: EFFECTS OF MI XTURES OF CHLORINATED ALIPHATICS AND HEAVY METALS Rice University	Hughes Joseph	N 36 31/08/93 \$319,094	KOZUMBO 93-NL-383	
PROPOSAL TO EXTEND AND TEST COGNITIVE TUTOR Carnegie-Mellon University	Anderson John	N 36 01/09/93 \$548,913	TANGNEY 93-NL-384	
TUTORING THAT USES EXAMPLES APPROPRIATELY Univ of Pittsburgh	VanLehn Kurt	N 36 02/03/93 \$494,231	TANGNEY 93-NL-385	
NEURAL NETWORK FOR VISION CHANNEL INTERACTION AND MEMORY Boston University	Zar-Yan Yaneer	N 36 02/09/93 \$297,224	TANGNEY 93-NL-386	
FURTHER RESEARCH ON SUPER AUDITORY LOCALIZATION FOR IMPROVED HUMAN MACHINE INTERFACES Massachusetts Institute of Technology	Durlach Mathzaniel	N 36 03/09/93 \$956,447	COLLINS 93-NL-387	
GORDON RESEARCH CONFERENCE ON PINEAL CELL BIOLOGY Univ of Texas Health Science Ctr	Zalter Russel	N 01 07/09/93 \$7,500	D HADDAD 93-NL-388	
IN VITRO APPROACH TO PREDICTIVE TOXICOKINETICS Johns Hopkins University	Frazier John	N 36 09/09/93 \$457,379	KOZUMBO 93-NL-389	

REPORT DATE 10/08/93

PROPOSAL STATUS REPORT ( 1 JUL 93 - 30 SEP 93)  
AIR FORCE OFFICE OF SCIENTIFIC RESEARCH  
DIRECTORATE OF LIFE SCIENCES

PAGE 6

TITLE TITLE (CONT.) INSTITUTION	INVESTIGATOR	TYPE/MONTHS RECEIVED AMOUNT	STATUS PROGRAM MANAGER PROPOSAL #	INITIATE START DATE TOT AMT
CIRCADIAN VISUAL SYSTEM DEVELOPMENT State University of New York	Morin Laurence	N 36 13/09/93 \$561,287	HADDAD 93-NL-390	
ASSESSMENT OF CYANOBACTERIAL MATS FOR SIMULTANEOUS BIOREMEDIATION OF HEAVY METALS, PAHS & ICE IN A AQUEOUS SOLUTION Clark Atlanta University	Udoudo Ekanemesang	N 36 13/09/93 \$433,017	KOZUMBO 93-NL-391	
PROTEIN TYROSINE KINASES AND THE CIRCADIAN SYSTEM Stanford University	Thomas Kilduff	N 36 14/09/93 \$362,111	HADDAD 93-NL-392	
A STUDY OF THE METABOLISM AND TOXICITY OF SOME MEDIUM MOLECULAR WEIGHT HYDROCARBONS IN FISCHER 344 RATS Wright State University	M. Paul Serve	N 24 14/09/93 \$102,783	KOZUMBO 93-NL-393	
CHRONOBIOLOGY OF RETINAL SENSITIVITY MODULATION SRI International	Mary White	N 48 14/09/93 \$885,896	HADDAD 93-NL-394	
A PROPOSAL FOR A WORKSHOP ON INVESTIGATIONS OF LITHOSPHERE ARCHITE CTURE AND DEVELOPMENT (ILLIAD WORKSHOP) Rice University	Alan Lavender	N 12 21/09/93 \$27,623	DICKINSON 93-NL-395	
ANALYSIS OF SOVIET DSS RECORDS FOR PROPAGATION & MODELING OF LG BL CKAGE ACROSS MAJOR CRUSTAL FEATURES Univ of Wyoming	Scott Smithson	N 24 22/09/93 \$215,120	A DICKINSON 93-NL-396	\$29,721 01/01/94 \$215,107
A NATIONAL AGENDA FOR VIRTUAL REALITY RESEARCH AND DEVELOPMENT National Research Council	Anne Mavor	N 12 23/09/93 \$30,000	A TANGNEY 93-NL-397	\$30,000 01/10/93 \$30,000
HUMAN BREATH TEST FOR DETECTION OF EARLY TETRACHLOROETHYLENE HEPAT OTOXICITY Johns Hopkins University	Terence Risby	N 36 27/09/93 \$506,254	KOZUMBO 93-NL-398	

REPORT DATE 10/08/93  
 PROPOSAL STATUS REPORT ( 1 JUL 93 - 30 SEP 93)  
 AIR FORCE OFFICE OF SCIENTIFIC RESEARCH  
 DIRECTORATE OF LIFE SCIENCES

TITLE TITLE (CONT.) INSTITUTION	INVESTIGATOR	TYPE/MONTHS RECEIVED AMOUNT	STATUS PROGRAM MANAGER PROPOSAL	INITIATE START DATE TOT AMT
COMPARATIVE STUDIES OF SPATIAL ORIENTATIONS: BIOCHEMICAL, ELECTROPH YSIOLOGICAL, AND BEHAVIORAL INVESTIGATIONS College of Staten Island/CUNY	Wieraszko Andrzej	N 36 27/09/93 \$495,777	COLLINS 93-NL-399	
DETERMINING THE SOURCE MECHANISM AND DEPTH FOR SMALLER TELESEISMIC EVENTS Australian National University	Kennett Brian	N 24 28/09/93 \$248,726	A DICKINSON 93-NL-400	\$20,727 01/01/94 \$248,726

REPORT DATE 10/08/93  
PROPOSAL STATUS REPORT ( 1 JUL 93 - 30 SEP 93)  
AIR FORCE OFFICE OF SCIENTIFIC RESEARCH  
DIRECTORATE OF MATHEMATICAL & INFORMATION SCIENCES

TITLE (CONT.) INSTITUTION	INVESTIGATOR	TYPE/MONTHS RECEIVED AMOUNT	STATUS PROGRAM MANAGER PROPOSAL #	INITIATE START DATE TOT AMT
STOCHASTIC CONTROL AND NONLINEAR ESTIMATION Brown University	Kushner Harold	R 36 02/07/93 \$503,473	JACOBS 93-NM-379	
RESOURCE ACQUISITION MODELS FOR MULTIPLE DEMAND SCENARIOS: A PROJECTION-BASED METHODOLOGY Univ of Maryland	Sall Michael	N 24 02/07/93 \$337,069	GLASSMAN 93-NM-380	
PROPOSAL FOR RESEARCH IN DESCRIPTION AND RECOGNITION OF CURVED 3-D OBJECTS FROM SINGLE INTENSITY IMAGES Texas Instruments Inc	Flinchbaugh Bruce	N 36 02/07/93 \$549,907	A WAKSMAN 93-NM-381	\$90,000 30/09/93 \$549,907
MULTIPLE-ACCESS LOW PROBABILITY OF INTERCEPT (LPI) COMMUNICATIONS NETWORKS Univ of Kansas, Center for Research	Prescott Glenn	N 36 02/07/93 \$257,293	A SJOGREN 93-NM-382	\$81,056 01/10/93 \$257,293
MATHEMATICS IN INDUSTRY: OPPORTUNITIES AND EDUCATIONAL REQUIREMENTS Society for Industrial & Applied Math	Block I. Edward	N 24 02/07/93 \$35,000	JACOBS 93-NM-383	
ADAPTIVE FILTERING IDENTIFICATION & CONTROL OF DISTRIBUTED & HIGH DIMENSIONAL SYSTEMS Univ of California, Los Angeles	Gibson J.	N 36 06/07/93 \$322,569	A JACOBS 93-NM-384	\$94,965 01/01/94 \$298,344
SHOP FLOOR SCHEDULING FOR PROGRAMMED DEPOT MAINTENANCE CONSIDERING STOCHASTIC REPAIR NEEDS Iowa State University	Gemill Douglas	N 36 13/07/93 \$182,540	GLASSMAN 93-NM-385	
CHARACTERIZATION AND FABRICATION OF DIELECTRIC MATERIAL EXHIBITING PHOTONIC GAPS Univ of North Carolina	Figotin Alexander	N 24 13/07/93 \$352,487	HACHMAN 93-NM-386	
OPTIMIZING DISCRIMINATION NETWORKS FOR ACTIVE DATABASE SYSTEMS Univ of Florida	Hanson Eric	N 36 13/07/93 \$190,969	WAKSMAN 93-NM-387	

REPORT DATE 10/08/93

PROPOSAL STATUS REPORT ( 1 JUL 93 - 30 SEP 93)  
AIR FORCE OFFICE OF SCIENTIFIC RESEARCH  
DIRECTORATE OF MATHEMATICAL & INFORMATION SCIENCES

PAGE 2

TITLE (CONT.) INSTITUTION	INVESTIGATOR	TYPE/MONTHS RECEIVED AMOUNT	STATUS PROGRAM MANAGER PROPOSAL #	INITIATE START DATE TOT AMT
ADVANCED NUMERICAL METHODS FOR THREE-DIMENSIONAL PARALLEL HYBRID RMD/PIC Cambridge Hydrodynamics Incorporated	Orszag Steven	N 36 13/07/93 \$597,140	JACOBS 93-NM-388	
PARALLEL MAGNETOHYDRODYNAMIC COMPUTATION				
N.Y. U. Courant Institute Math Science	Strauss Henry	N 60 13/07/93 \$549,947	JACOBS 93-NM-389	
MODELING AND CONTROL OF UNCERTAIN SYSTEMS				
Louisiana State University	Gu Guoxiang	N 36 13/07/93 \$128,705	JACOBS 93-NM-390	
ADAPTIVE IDENTIFICATION, ESTIMATION AND CONTROL OF DISTRIBUTED PARAMETER SYSTEMS Univ of Southern California	Rosen I. Gary	N 36 13/07/93 \$117,393	JACOBS 93-NM-391	
ELECTRICAL PROPERTIES OF PARTICULATE COMPOSITES				
Thiokol Corp	Davis I. Lee	N 36 13/07/93 \$244,915	NACHMAN 93-NM-392	
GALE TRANSFORMS, POLAR POLYTOPES AND LINEAR PROGRAMMING: DESIGN, IMPLEMENTATION AND TESTING OF NEW LP ALGORITHMS Purdue Research Foundation	Morin t.	N 36 13/07/93 \$0	GLASSMAN 93-NM-393	
ROUTING AND INVENTORY CONTROL MODELS IN GENERAL DISTRIBUTION NETWORKS Columbia University	Simchi-Levi David	N 36 13/07/93 \$398,503	GLASSMAN 93-NM-394	
RANDOMIZED ALGORITHMS FOR ON-LINE PROBLEMS AND EDGE CONNECTIVITY				
Georgia Institute of Tech	Karloff Howard	N 36 13/07/93 \$325,960	GLASSMAN 93-NM-395	
DYNAMIC NETWORKS TECHNIQUES FOR AUTONOMOUS PLANNING AND CONTROL				
Univ of California, Los Angeles	Pearl Judea	N 36 14/07/93 \$656,441	A WAKSMAN 93-NM-396	\$60,000 01/01/94 \$313,526

REPORT DATE 10/03/93  
PROPOSAL STATUS REPORT ( 1 JUL 93 - 30 SEP 93)  
AIR FORCE OFFICE OF SCIENTIFIC RESEARCH  
DIRECTORATE OF MATHEMATICAL & INFORMATION SCIENCES

TITLE TITLE (CONT.) INSTITUTION	INVESTIGATOR	TYPE/MONTHS RECEIVED AMOUNT	STATUS PROGRAM MANAGER PROPOSAL #	INITIATE START DATE TOT AMT
ROBUST CONTROL SYSTEM DESIGN USING HIGH-PERFORMANCE COMPUTING Princeton University	Stengel Robert	N 36 14/07/93 \$210,912	JACOBS 93-NM-397	
MATHEMATICAL PROBLEMS OF NONLINEAR WAVE PROPAGATION AND OF WAVES IN HETEROGENEOUS MEDIA Stanford University	Keller Joseph	N 36 14/07/93 \$313,209	NACHMAN 93-NM-398	
IMPRECISE CONSTRAINTS IN ENGINEERING MODELS Massachusetts Institute of Technology	Otto Kevin	N 36 21/07/93 \$235,649	SUDDARTH 93-NM-400	\$169,327 30/09/93 \$201,983
CH3CU/MI FY 92-93) COMPUTATIONAL STRUCTURES IN MULTI-RATE FILTER BANKS City University of New York	Tolimieri Richard	N 24 23/07/93 \$201,983	A NACHMAN 93-NM-401	\$152,728 30/09/93 \$152,728
CH3CU/MI FY92-93) GRAPHICS SUPERCOMPUTER FOR COMPUTATIONAL FLUID DYNAMICS RESEARCH Alabama A&M University	Lain Goang	N 12 23/07/93 \$152,728	A NACHMAN 93-NM-402	\$70,492 30/10/93 \$70,492
CH3CU/MI FY 92-93) ESTABLISHMENT OF A LABORATORY FOR VISUAL PROGRAMMING RESEARCH Florida International University	Milani Masoud	N 12 26/07/93 \$70,492	A NACHMAN 93-NM-403	\$125,850 30/09/93 \$125,850
CH3CU/MI FY92-93) A RESEARCH TRANSFER EFFORT IN EM RADIATION ANALYSIS BETWEEN ARMSTRONGS LABORATORY & VIRGINIA STATE UNIVERSITY Virginia State University	Agrawal Krishan	N 15 26/07/93 \$125,850	A NACHMAN 93-NM-404	\$112,178 30/09/93 \$112,178
SOLVING THE INVERSE PROBLEM FOR LAYERS & 3D OBJECTS BY USE OF SAUHA'S SINGULARITY EXPANSION FOR SCATTERING Catholic University of America	Usherall Harbert	N 36 27/07/93 \$142,112	NACHMAN 93-NM-405	
APPROXIMATION ALGORITHMS FOR CONCURRENT FLOW PROBLEM WITH APPLICATIONS Univ of North Texas	Shahrokhi Farhad	N 36 27/07/93 \$142,112	GLASSMAN 93-NM-406	

REPORT DATE 10/08/93

PROPOSAL STATUS REPORT ( 1 JUL 93 - 30 SEP 93)  
AIR FORCE OFFICE OF SCIENTIFIC RESEARCH  
DIRECTORATE OF MATHEMATICAL & INFORMATION SCIENCES

PAGE 4

TITLE TITLE (CONT.) INSTITUTION	INVESTIGATOR	TYPE/MONTHS RECEIVED AMOUNT	STATUS PROGRAM MANAGER PROPOSAL #	INITIATE START DATE TOT AMT
SPECTRUM ALLOCATION STRATEGIES FOR COMMUNICATION NETWORKS California Institute of Technology	McEliece Robert	R 12 27/07/93 \$111,710	A GLASSMAN 93-NM-407	\$95,000 01/10/93 \$95,000
ON NETWORK COMPLEXITY OF LARGE FUNCTION APPROXIMATING NEURAL NETWORKS AND APPLICATIONS Rensselaer Polytechnic Institute	J1 Chuanyi	N 36 27/07/93 \$138,179	SUDDARTH 93-NM-408	
EVOLVING VLSI NEUROMORPHIC SYSTEMS FOR VISUAL MOTION PROCESSING Univ of Delaware	Elias John	N 36 27/07/93 \$327,746	SUDDARTH 93-NM-409	
ALGORITHMS FOR DIGITAL MICRO-WAVE RECEIVERS & OPTIMAL SYSTEM IDENTIFICATION Wright State University	Shaw Arneb	R 24 29/07/93 \$93,451	A SJOGREN 93-NM-410	\$45,797 01/10/93 \$93,451
FIXED ORDER CONTROL DESIGN AND IMPLEMENTATION Purdue University	Skelton R.	N 36 29/07/93 \$659,486	JACOBS 93-NM-411	
NONLINEAR DISTRIBUTED ADAPTIVE CONTROL OF HIGH-PERFORMANCE AEROSPACE PLANES Oregon State University	Mohler Ronald	N 45 02/08/93 \$308,078	JACOBS 93-NM-412	
INVESTIGATION OF THE CONTINUOUS SPECTRUM FOR PLANAR OPEN-BOUNDARY WAVEGUIDES Michigan State University	Nyquist Dennis	N 36 03/08/93 \$258,973	NACHMAN 93-NM-413	
TURBULENCE, MIXING AND CONVECTION Cornell University	Siggia Eric	N 36 03/08/93 \$113,231	NACHMAN 93-NM-414	
ALGEBRAIC AND GEOMETRIC METHODS IN SIGNAL PROCESSING, COMPUTER VISION AND AUTOMATIC TARGET RECOGNITION Univ of Nebraska	Snattocharya Prabir	N 36 03/08/93 \$141,618	A SJOGREN 93-NM-415	\$46,164 01/11/93 \$141,618



REPORT DATE 10/03/93

PROPOSAL STATUS REPORT ( 1 JUL 93 - 30 SEP 93 )  
AIR FORCE OFFICE OF SCIENTIFIC RESEARCH  
DIRECTORATE OF MATHEMATICAL & INFORMATION SCIENCES

PAGE 5

TITLE (CONT.) INSTITUTION	INVESTIGATOR	TYPE/MONTHS RECEIVED AMOUNT	STATUS PROGRAM MANAGER PROPOSAL #	INITIATE START DATE TOT AMT
ANALYSIS OF MATHEMATICAL MODELS FOR SURFACE FINISHING Univ of Pittsburgh	Hall Charles	N 24 03/08/93 \$306,338	NACHMAN 93-NM-416	\$122,184 01/12/93 \$514,378
LARGE-SCALE OPTIMIZATION METHODS FOR MOLECULAR CHEMISTRY PROBLEMS Univ of Colorado	Schnabel Robert	N 36 03/08/93 \$523,901	A GLASSMAN 93-NM-417	
NEW COMPUTATIONAL METHODS FOR IDENTIFYING EXTREME POINTS OF CONVEX MULLS Southern Methodist University	Helgason Richard	N 24 03/08/93 \$179,767	GLASSMAN 93-NM-418	
CRACK PROPAGATION IN LINEAR & NONLINEAR VISCOELASTIC MATERIAL Texas A and M Research Foundation	Walton Jay	N 12 04/08/93 \$27,000	A NACHMAN 93-NM-419	\$27,000 01/01/94 \$27,000
MULTIDIMENSIONAL PROBLEMS IN DYNAMIC PLASTICITY North Carolina State University	Shearer Michael	N 12 04/08/93 \$10,000	A NACHMAN 93-NM-420	\$10,000 01/10/93 \$10,000
MULTIDIMENSIONAL PROBLEMS IN DYNAMIC PLASTICITY Duke University	Schaeffer David	N 12 04/08/93 \$75,000	A NACHMAN 93-NM-421	\$75,000 01/10/93 \$75,000
MULTIDIMENSIONAL PROBLEMS IN DYNAMIC PLASTICITY State University of New York	Pitman Bruce	N 12 04/08/93 \$15,000	A NACHMAN 93-NM-422	\$15,000 01/10/93 \$15,000
NUMERICAL METHODS FOR STIFF DIFFERENTIAL EQUATIONS, 7 JOSEPHSON IN TERFEROMETER EQUATIONS Int'l Business Machines Corp	Liniger Werner	R 12 06/08/93 \$6,582	A NACHMAN 93-NM-423	\$6,582 01/10/93 \$6,582
WAVELETS, SIGNAL PROCESSING, & MATRIX COMPUTATION Air Force Institute of Technology	Suter Bruce	N 03 06/08/93 \$12,640	A SJOGBREN 93-NM-424	\$0 01/07/93 \$12,640

REPORT DATE 10/08/93

PROPOSAL STATUS REPORT ( 1 JUL 93 - 30 SEP 93 )  
AIR FORCE OFFICE OF SCIENTIFIC RESEARCH  
DIRECTORATE OF MATHEMATICAL & INFORMATION SCIENCES

PAGE 6

TITLE (CONT.) INSTITUTION	INVESTIGATOR	TYPE/MONTHS RECEIVED AMOUNT	STATUS PROGRAM MANAGER PROPOSAL #	INITIATE START DATE TOT AMT
AVAILABILITY/RELIABILITY MODELING OF REAL TIME FAULT TOLERANT INTEGRATED HARDWARE AND SOFTWARE REPAIRABLE SYSTEMS Univ of Arizona	Dietrich Juane	N 36 09/08/93 \$512,900	SUDDARTH 93-NM-425	
BREAKING INTRACTABILITY, SOFTWARE, SYSTEM IDENTIFICATION AND IMPLEMENTATION TESTING Columbia University	Traub J.	N 36 10/08/93 \$449,278	JACOBS 93-NM-426	
PARALLEL MULTI-SCALE ALGORITHMS AND APPLICATION TO COMBUSTION AND TURBULENCE Princeton University	Karniadakis George	N 36 10/08/93 \$233,520	JACOBS 93-NM-427	
PARALLEL MULTI-SCALE ALGORITHMS AND APPLICATIONS TO COMBUSTION AND TURBULENCE Univ of North Carolina	Cai Wei	N 36 12/08/93 \$226,916	JACOBS 93-NM-428	
INVARIANT METHODS FOR FUSING PHOTOGRAPHIC WITH SAR IMAGES Lockheed Missiles & Space Co Inc	Barrett Esmon	N 36 13/08/93 \$480,000	A WAKSMAN 93-NM-429	\$100,000 30/11/93 \$480,000
(HBCU/MI FY92/93) A CLUSTER WORKSTATION FACILITY FOR RESEARCH IN COMPUTER SCIENCE Queens College	Brown Theodore	N 36 15/08/93 \$226,000	A NACHMAN 93-NM-430	\$226,000 01/09/93 \$226,000
CENTER FOR SCIENTIFIC VISUALIZATION Central State University	Simmons Gloria	N 12 16/03/93 \$297,000	A NACHMAN 93-NM-431	\$297,000 30/09/93 \$297,000
3D COLLAPSE PHENOMENA IN DISPERSIVE NONLINEAR MEDIA: A CRITIQUE OF ENVELOPE MODELS Univ of Arizona	Newell A	N 36 16/03/93 \$365,022	A NACHMAN 93-NM-432	\$119,921 01/11/93 \$365,022
HIGHER-ORDER CYCLOSTATIONARITY IN COMMUNICATIONS AND SIGNALS INTELLIGENCE Mission Research Corp	Spooner Chad	N 36 16/08/93 \$277,705	SJOGREN 93-NM-433	

REPORT DATE 10/08/93

PROPOSAL STATUS REPORT ( 1 JUL 93 - 30 SEP 93 )  
AIR FORCE OFFICE OF SCIENTIFIC RESEARCH  
DIRECTORATE OF MATHEMATICAL & INFORMATION SCIENCES

PAGE 7

TITLE TITLE (CONT.) INSTITUTION	INVESTIGATOR	TYPE/MONTHS RECEIVED AMOUNT	STATUS PROGRAM MANAGER PROPOSAL #	INITIATE START DATE TOT AMT
ON OPTIMAL INTEGRAL SOLUTIONS OF LINEAR PROGRAMS & ITS APPLICATIONS IN SATELLITE SCHEDULING & OTHER PROBLEMS Arizona State University	Sen Arunabha	N 36 18/08/93 \$48,122	GLASSMAN 93-NM-434	
DEVELOPMENT OF A MODULAR & PORTABLE 3 DIMENSIONAL DEFORMABLE GRID ELECTROMAGNETIC PARTICLE-FILLED CODE FOR HIGH PERFORMANCE.... California Institute of Technology	Keller Herbert	N 36 18/08/93 \$270,000	JACOBS 93-NM-435	
FINITE POPULATIONS RELIABILITY Northern Illinois University	Ebrahimi Nader	N 36 18/08/93 \$95,483	SJOGREN 93-NM-436	
STOCHASTIC NETWORK PROCESSES Georgia Tech Research Corporation	Serfozo Richard	R 74 19/08/93 \$39,746	A SJOGREN 93-NM-437	\$39,746 01/11/93 \$39,746
NEURAL NETWORK CONTROL WITH UNSUPERVISED LEARNING South Carolina State College	Tao Jianming	N 12 19/08/93 \$111,492	A SUDDARTH 93-NM-438	\$111,492 01/11/93 \$111,492
DESIGN OF ROBUST CONTROLLERS-FREQUENCY DOMAIN METHODS & THEIR NONLINEAR EXTENSIONS Univ of California, San Diego	Helton J. William	N 36 19/08/93 \$406,758	JACOBS 93-NM-439	
NEW COMPUTATIONAL METHODS FOR DIFFICULT OPTIMIZATION PROBLEMS Univ of Minnesota	Rosen J. Sen	N 24 19/08/93 \$116,680	GLASSMAN 93-NM-440	
ILKJFIJJ City Univ of New York Resch Foundation		N 12 19/08/93 \$1	NACHMAN 93-NM-441	
SOME FILE SHAD PROBLEMS ASSOCIATED WITH INJECTION MOLDING Univ of Delaware	Gilbert Robert	N 36 20/08/93 \$221,938	NACHMAN 93-NM-442	

REPORT DATE 10/08/93

PROPOSAL STATUS REPORT ( 1 JUL 93 - 30 SEP 93 )  
 AIR FORCE OFFICE OF SCIENTIFIC RESEARCH  
 DIRECTORATE OF MATHEMATICAL & INFORMATION SCIENCES

PAGE 8

TITLE (CONT.) INSTITUTION	INVESTIGATOR	TYPE/MONTHS RECEIVED AMOUNT	STATUS PROGRAM MANAGER PROPOSAL #	INITIATE START DATE TOT AMT
WORKSHOP ON BAYESIAN STATISTICS IN SCIENCE & TECHNOLOGY Carnegie-Mellon University	Kass Robert	N 09 27/08/93 \$9,900	A SJOGREN 93-NM-443	\$9,900 01/10/93 \$9,900
A WORKSHOP ON CONTROL OF DISCRETE EVENT SYSTEMS George Mason University	Levis Alexander	N 12 31/08/93 \$37,977	A GLASSMAN 93-NM-446	\$37,977 01/12/94 \$37,977
(AASERT93) WEIL TRANSFORM AND ERROR CORRECTING CODES City College - CUNY	Auslander Louis	N 36 01/09/93 \$115,067	A SJOGREN 93-NM-445	\$38,161 01/12/93 \$38,161
OPTIMAL INSPECTION SCHEDULE FOR CRITICAL PARTS OF AIRCRAFT Northeastern University	Melachrinoudis Emanuel	N 12 01/09/93 \$144,396	GLASSMAN 93-NM-446	
ALGEBRAIC & GEOMETRIC METHODS IN SIGNAL PROCESSING COMPUTER VISION & AUTOMATIC TARGET RECOGNITION Univ of Nebraska	Bhattacharya Prabir	N 36 01/09/93 \$141,616	SJOGREN 93-NM-447	
OSCULANT Univ of Florida	Taylor Fred	N 36 01/09/93 \$281,826	SUDDARTH 93-NM-448	
KINEMATIC PARAMETERIZATION PROBLEM FOR MECHANISMS WITH LOOP TOPOLOGY Monyswall Inc	Elgersma Michael	N 34 01/09/93 \$241,772	JACOSS 93-NM-449	
STUDY OF WAVE PROPAGATION IN RANDOM MEDIA Howard University	Gill Tepper	N 36 02/09/93 \$234,154	NACHMAN 93-NM-450	
L-TEST SQUARES COMPUTATIONS IN IMAGING AND RELATED PROBLEMS Johns Forest University	Plamons Robert	N 36 02/09/93 \$174,629	GLASSMAN 93-NM-451	

REPORT DATE 10/08/93

PROPOSAL STATUS REPORT ( 1 JUL 93 - 30 SEP 93 )  
AIR FORCE OFFICE OF SCIENTIFIC RESEARCH  
DIRECTORATE OF MATHEMATICAL & INFORMATION SCIENCES

PAGE 9

TITLE (CONT.) INSTITUTION	INVESTIGATOR	TYPE/MONTHS RECEIVED AMOUNT	STATUS PROGRAM MANAGER PROPOSAL #	INITIATE START DATE TOT AMT
INTEGRABLE AND CHAOTIC MOTION OF A SOLID BODY THROUGH A FLUID Univ of Illinois	Aref Hassan	N 36 02/09/93 \$135,000	NACHMAN 93-NM-452	
NUMERICAL SOLUTION OF THE HIGH FREQUENCY ASYMPTOTIC FOR HYPERBOLIC EQUATIONS Univ of California, Los Angeles	Osher Stanley	N 27 13/09/93 \$538,854	NACHMAN 93-NM-453	
COMPUTATIONAL MODELS OF HUMAN LEARNING WITH INSTRUCTIONAL RELEVANCE Stanford University	Nilsson Mills	N 36 13/09/93 \$310,045	A WAKSMAN 93-NM-454	\$99,982 01/01/94 \$310,045
COMPUTATIONAL & MATHEMATICAL INVESTIGATION IN OPTIMIZATION Cornell University	Todd Michael	N 36 13/09/93 \$337,487	GLASSMAN 93-NM-455	
ADAPTIVE SENSORY-MOTOR PLANNING BY HUMANS & MACHINES Boston University	Grossberg Stephen	N 36 13/09/93 \$604,444	SUDDARTH 93-NM-456	
MODELING AND DESIGN OF HIGH PRESSURE CRYSTAL GROWTH PROCESSES State University of New York	Prasad Vishwanath	N 12 14/09/93 \$84,768	A JACOBS 93-NM-457	\$84,768 01/12/93 \$84,768
NEXT GENERATION SOLID MODELERS FOR ELECTRONIC PROTOTYPING Univ of Michigan	Dutta Debasish	R 12 14/09/93 \$103,556	A GLASSMAN 93-NM-458	\$79,542 01/12/93 \$79,542
CLOSED FORM 2D ANGLE ESTIMATION WITH CIRCULAR ARRAYS/APERTURES FOR LAND/SEA TACTICAL MOBILE COMMUNICATIONS & SURVEILLANCE RADAR Purdue Research Foundation	Zoltowski Michael	N 36 14/09/93 \$140,200	SJOGREN 93-NM-459	
SONOLUMINESCENCE IN THE HUMAN BODY Univ of California, Los Angeles	Roberts Paul	N 36 14/09/93 \$38,269	NACHMAN 93-NM-460	

REPORT DATE 10/10/93

PROPOSAL STATUS REPORT ( 1 JUL 93 - 30 SEP 93 )  
AIR FORCE OFFICE OF SCIENTIFIC RESEARCH  
DIRECTORATE OF MATHEMATICAL & INFORMATION SCIENCES

PAGE 10

TITLE (CONT.) INSTITUTION	INVESTIGATOR	TYPE/MONTHS RECEIVED AMOUNT	STATUS PROGRAM MANAGER PROPOSAL #	INITIATE START DATE TOT AMT
ADVANCED MONTE CARLO TECHNIQUES Univ of Pennsylvania	Roy	N 36 14/09/93 \$331,200	SJOGREN 93-NM-461	
STUDIES OF WAVE PROPAGATION IN RANDOM MEDIA Devaney (A.J.) Associates	Devaney	N 36 15/09/93 \$359,300	NACHMAN 93-NM-462	
INCORPORATING PERSISTENCE IN LARGE-SCALE OPTIMIZATION MODELS Naval Post Graduate School	Bradley	N 24 16/09/93 \$200,000	A GLASSMAN 93-NM-463	\$100,000 01/12/93 \$100,000
FLCW-CONTROLLED, MULTICASTING GIGABIT LANS Harvard University	Kung	N 24 21/09/93 \$155,822	A SJOGREN 93-NM-464	\$88,349 01/12/93 \$155,822
DESIGN & EVALUATION OF SCALABLE OPTICAL NETWORKS Univ of Massachusetts	Ganz	N 36 22/09/93 \$407,915	SUDDARTH 93-NM-465	
TITLE #1 FERRITE PATCH ANTENNAS TITLE #2 MATERIAL SPECTROSCOPY USING PICO-SECOND PULSES Northeastern University	Victoria	N 12 22/09/93 \$75,000	A NACHMAN 93-NM-466	\$75,000 01/10/93 \$75,000
ADAPTIVE AND PARALLEL COMPUTATIONAL TECHNIQUES IN MATERIALS SCIENCE Rensselaer Polytechnic Institute	Flaherty	N 36 29/09/93 \$363,550	JACOBS 93-NM-467	
SPECTRAL PROPERTIES OF PERIODIC AND DISORDERED DIELECTRIC AND ACOUSTIC MEDIA Univ of North Carolina	Figotin	N 26 29/09/93 \$270,168	NACHMAN 93-NM-468	
MATHEMATICAL ASPECTS OF HYPERSONIC BOUNDARY LAYERS AND JETS City University of New York	Papageorgiou	N 36 29/09/93 \$135,582	NACHMAN 93-NM-469	

REPORT DATE 10/08/93

PROPOSAL STATUS REPORT ( 1 JUL 93 - 30 SEP 93 )  
AIR FORCE OFFICE OF SCIENTIFIC RESEARCH  
DIRECTORATE OF MATHEMATICAL & INFORMATION SCIENCES

PAGE 11

TITLE (CONT.) INSTITUTION	INVESTIGATOR	TYPE/MONTHS RECEIVED AMOUNT	STATUS PROGRAM MANAGER PROPOSAL #	INITIATE START DATE TOT AMT
AN ADAPTIVE FINITE ELEMENT METHOD FOR UNSTEADY HIGH ANGLES OF ATTACK AERODYNAMICS Rensselaer Polytechnic Institute	Rusak Zvi	N 24 29/09/93 \$150,540	JACOB 93-NM-470	
COMPUTATIONAL METHODS FOR ELECTROMAGNETIC SCATTERING AND STRUCTURAL PHASE TRANSITIONS Carnegie-Mellon University	Nicolaides R.	N 36 29/09/93 \$444,243	JACOB 93-NM-471	
ASYMPTOTIC THEORY OF REFLECTION & TRANSMISSION OF A PULSED ELEC- TROMAGNETIC BEAM FIELD AT A PLANAR INTERFACE SEPARATING 2 DISP MED Univ of Vermont	Kurt Oughston	N 36 29/09/93 \$273,797	NACHMAN 93-NM-472	
EFFICIENT AND FAULT-TOLERANT INTERPROCESSOR COMMUNICATION IN WORMHOLE-ROUTED K-ARY N-CUBE AND N-MESH NETWORKS Ohio State Univ Research Foundation	Fuzun Ozguner	N 24 29/09/93 \$154,209	SUDDARTH 93-NM-473	
COMPUTING SCIENCE AND STATISTICS: SYMPOSIUM ON THE INTERFACE Interface Foundation of North America	John Sall	N 12 30/09/93 \$50,325	SJOGREN 93-NM-474	
APPLIED MATHEMATICAL PROBLEMS IN MODERN ELECTROMAGNETICS New Jersey Institute of Technology	Gregory Kriegsmann	N 36 30/09/93 \$285,658	NACHMAN 93-NM-475	
NEURAL NETWORK TRAINING David Sarnoff Research Center	John Pearson	N 36 30/09/93 \$421,303	SUDDARTH 93-NM-476	

PROPOSAL STATUS REPORT ( 1 JUL 93 - 30 SEP 93)  
AIR FORCE OFFICE OF SCIENTIFIC RESEARCH  
EXTERNAL LAB PROPOSALS

REPORT DATE 10/08/93

TITLE (CONT.) INSTITUTION	INVESTIGATOR	TYPE/MONTHS RECEIVED AMOUNT	STATUS PROGRAM MANAGER PROPOSAL #	INITIATE START DATE TOT AMT
AIR FORCE INTERNATIONAL ASSESSMENT SUPPORT PROGRAM Coshona Junior College		N 31 17/08/93 \$750,000	CARRANZA 93-EX-001	\$130,000 01/01/96 \$750,000